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SCHOOL WASTAGE STUDY FOCUSING ON STUDENT ABSENTEEISM IN ARMENIA

Dr. Haiyan Hua
Harvard Graduate School of Education

With contributions from

Alvard Poghosyan, Education Officer, UNICEF-Armenia
Serob Khachatryan, National Institute of Education – Local Coordinator
Gagik Melikyan, National Institute of Education – Deputy Director
Vagharshak Khachatryan, National Institute of Education
Vagharshak Voskanyan, National Institute of Education
Nelli Baghdasaryan, National Statistical Service
Seda Petrosyan, National Statistical Service

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Dr. Haiyan Hua
Harvard Graduate School of Education

ACRONYMS

MoES	Ministry of Education and Science
OECD	Organization for Economic Co-operation and Development
PIU	Project Implementation Unit
EMIS	Education Management Information System
NGO	Non-Government Organization
M&E	Monitoring and Evaluation
KPI	Key Performance Indicators
SES	Social Economic Status

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EXECUTIVE SUMMARY

The Armenian education system is undergoing major reform initiatives including structural change, new curriculum adoption, new standards-based assessment, and the implementation of a student-based funding scheme.[1] The success of these reforms, undoubtedly, will depend on how students participate and perform in Armenia's school system. Thus, the current study was designed and carried out to identify the current status and trend in school wastage, focusing on students' participation and attendance in schooling in Armenia. It uses multiple research methods, both qualitative and quantitative, and various data sources to analyze and evaluate key indicators of school wastage, including student participation and academic performance. This study, supported by UNICEF in Armenia, identifies major issues relating to school wastage in Armenia and makes recommendations for a way forward.

1. Key Findings

Dropouts

According to official statistics in Armenia, dropout rates have been relatively low compared to those of many other developing and developed countries, but have grown annually at an alarming rate. During 2002-2003, 2003-2004, and 2004-2005, total dropouts were 1,531, 4,823, and 7,630 respectively, an average annual growth rate of 250%. There is no doubt that the current trend of dropouts from Armenian schools is worsening.

Absenteeism

Based on a comprehensive analysis of a large national dataset on student absenteeism, absenteeism in Armenia is much worse than many had thought. Students in higher grades are more likely to be absent than students in lower grades and students of 2006 are more likely to be absent than students of 2004 (who are more likely to be absent than students of 2002). The trends are worse in two ways: 1) the total number of students who are absent in a given term or year is higher; and 2) the total number of subject learning hours absentees missed in a given term or year is also higher.

Academic Performance

Student absenteeism in Armenia is negatively correlated with student academic performance (considering other things are equal); the more absent hours students have, the worse their academic performance is. This relationship is evident at all grade levels and in all subject matters.

Gender Gap

Female students are less likely to be absent from school than their male counterparts. Further more, female students perform better than male students. The difference is statistically significant, evident at all grade levels and in all years and all subject matters.

1. A per student funding formula has been used since 1999 with revisions in 2006. For details, a strategy paper for the funding policy and the technical funding formula is available in the MoES, Armenia.

2. Methodology

Both quantitative and qualitative research methods were applied in this comprehensive study of school wastage. The study consists of two phases. In Phase 1, a case analysis (of qualitative nature) involving desk review of relevant policy documents, school visits, and analysis of published data was conducted. In Phase 2, a more comprehensive (both quantitative and qualitative) approach was used to analyze a large national dataset on student absenteeism and performance[2] and organize focus groups of principals, teachers, parents and students in 22 selected schools in the country[3], thus identifying relevant causes of student absenteeism.

3. Issues on Data and Data Use Capacity

There is a lack of institutional data sharing since data often flows on a 'one-way traffic route'. Thus, schools receive no meaningful data report after they have submitted data.

There is a lack of data use capacity at all levels. Review of some policy reports and data publications suggest that Armenia's available data did not seem to have been translated into valuable and useful information for policy development. Most analyses have been descriptive and simply comparative based using highly aggregated data.

There is also lack of data integration even though most data on education is already available. It is difficult to obtain data from multiple years, multiple levels and multiple sources even though they all exist.

There appears to be an institutional distrust in official data. The distrust might have been caused by several factors, including a poor data validation process, errors in official data publication, or presentation of irrelevant data.

Data on school wastage is available but not properly reported or used for system-level analyses. Data on absenteeism is available in each school but not centrally collected. Data on dropouts is widely reported to the central office but is insufficient for representing the "reality". Data on other school wastage is available but is rarely integrated at a level meaningful for multi-year trend analysis.

4. Key Policy Suggestions

- The policy of compulsory education should be enforced and awareness of the importance of student participation in schooling should be enhanced (supported by this study).
- The current policy of 240 permissible absent hours per year should be reduced to 80 hours as a national average. Some variations could be accommodated to account for local needs, weather factors, and cultural sensitivity.
- A policy of automatic promotion should be considered for lower grades (primary grades 1-4 in the new system).

2. Data on 44,731 students (grades 2, 4, 6, 8, and 10) from 151 schools in Armenia were collected and analyzed.
3. 22 schools are qualitatively selected. Based on their aggregate absenteeism, 11 "worst" schools and 11 "best" schools were chosen from all 11 provinces.

- Schools in Armenia should have a five-day week. A two-day weekend for children could absorb the various needs for family activities and educators should focus on quality time for effective teaching and learning activities.

- MoES should adopt the UNICEF-supported framework of child-friendly schools in Armenia. All schools should become child-friendly schools.

- MoES should enhance its capacity to define, collect, monitor and evaluate key performance indicators of education development in Armenia, including students' school participation, attendance, and performance.

- MoES should design and develop a school profile report card and distribute the results annually as part of a M&E system4. Incentive programs could be developed to reward schools with good results for the indicators on the report card. Provinces and individual schools should be encouraged to identify effective ways to prevent absenteeism and dropouts.

Further details can be found in the following report.

4. A school profile report card is usually one page on which, in addition to the actual school profile, there are selected performance indicators listed with columns such as 'my school', 'my province', and 'my country' for comparative purposes.

SCHOOL WASTAGE STUDY FOCUSING ON STUDENT ABSENTEEISM IN ARMENIA

I. Background

This study of school wastage in Armenia began in late 2006 with strong support from UNICEF-Armenia and MoES. The study was undertaken in two phases: the first phase was a case study on the general status of overall school wastage based on an extensive review of current policy documents and analysis of officially published data and information; the second phase focused on a comprehensive study of student absenteeism, a major part of school wastage by definition, which has for long been under-researched. This report summarizes the main methods and findings from both phases and presents policy recommendations for reducing school wastage in Armenia. It is hoped that this report will help to increase awareness about the seriousness of school wastage and its related issues in Armenia as well as at a global level.

In the past few years, Armenia's policy makers have passed several educational reform initiatives that have already permeated all aspects of the country's education system. These reforms include structural changes to the system, new curriculum development, a new assessment system, and implementation of a student-based funding scheme[5]. Since 2006, the 10 year education system (old structure: Elementary School 1-3, Middle School 4-8, and High School 9-10) is being systematically converted to a 12 year system (new structure: Primary School 1-4, Middle School 5-9, and High School 10-12) (see old and new system tables below)[6]. According to the government's plan, the transition to the new school system will be complete by 2012. In the new system, the government is adding one more year to 9 years of compulsory education (primary and middle grades will be mandatory by law). The implications of and challenges from such large scale restructuring are tremendous—any educational data collected during the restructuring process must be well understood and properly analyzed in order to reflect the changes.

Old System

Compulsory Education									
Elementary School			Middle School					High School	
1	2	3	4	5	6	7	8	9	10

New System

Compulsory Education											
Primary School				Middle School					High School		
1	2	3	4	5	6	7	8	9	10	11	12

5. A per student funding formula has been used since 1999 with revisions made in 2006. For details, see a strategy paper and technical funding formula in MoES.
6. For the new structure, the government is planning to have a separate high school system (10-12 grades). The concept paper on provision of high school education was finalized in 2008.

Corresponding to the new 3-tier, 12-year educational structure, a new and comprehensive curriculum has been developed for all levels and grades. Lower grades in primary schools have started to implement the new curriculum and higher grades will soon adopt the new curriculum and textbooks during the next few years. It is reported that all existing grades will implement the new curriculum and use the new textbooks by 2009-2010. A large-scale national teacher training program, financially supported by the World Bank, has been implemented and existing teachers are being taught to use the new curriculum standards and guidelines which were approved by the government in 2004. Under the new curriculum, the Armenian government is also establishing a new national standardized assessment system. Although the blueprint of the new assessment system is not studied here, it is not difficult to imagine the huge challenges associated with its design, planning and implementation (e.g. creating a bank of grade specific examination items, creating an objective grading system, training examination monitors, and delivering examination papers will affect everyone in the education system and country).

In addition, the Armenian government has started to allocate the national education budget directly to individual schools based on the number of students enrolled[7]. Although the reported enrollment figure of each school must be verified and approved by the relevant provincial education authority and MoES, the annual budget transaction then bypasses those authorities and passes directly from the Ministry of Finance to the schools. This new per-student-based budget allocation is part of the government's decentralization scheme that seeks to boost local school management and control. It is evident that schools have become more motivated now to enroll students than before. But local school capacity for mobilizing additional resources is extremely limited and rural schools are particularly vulnerable given that Armenia is a largely agricultural state with scarcely populated farming villages spread across mountainous terrain.

Thus, Armenia faces extraordinary changes today. Will this new educational structure, curriculum, assessment, and funding be successful or lead to better education in Armenia? For a country that has a long tradition of valuing education and has been proud of its educational access, quality, equity, and success, this remains to be seen. Some educators in Armenia are not yet wholly convinced that education will become better because of these reforms. There have been serious complaints that many policy changes in the 15 years since independence have resulted in a worsening of education as measured by key education indicators. A street consensus[8] suggested that, as a result of the policies of recent years, education in Armenia is continuously deteriorating and shows no sign of improvement. This continues to worry many people in Armenia today.

It is within this broader context of Armenia's educational reforms that the school wastage study, supported by UNICEF, was conducted (September 2006 – December 2007) and the final report written. School wastage is undoubtedly an important issue and especially relevant to Armenia's current educational reforms. The final report is intended to not only provide readers with research and a synthesized analysis of current school wastage trends but also demand relevant policy changes in order to reduce school wastage.

7. As noted above, this funding scheme started in 1999 and was revised in 2006.
8. Conversations held with many people at all levels in Armenia qualify as 'street consensus'.

II. Definition of School Wastage

The concept of school wastage may mean different things to different people in different contexts. In general, 'school wastage' tends to include the various elements of the educational production model, from "input and process" to "output and outcome". Thus, the term could be broadly defined as a lack of demonstrated school success or unrealized educational gains, which are themselves gauged by student achievements (output) and the social and economic returns (outcome) that occur as a result of the provision of educational services, finance, and the consumption of other school-related resources. In other words, student failure in graduation or academic achievement often results in school wastage. If output or outcome is less than expected, whether it is measured in total number of graduates or total amount of learning, some level of school wastage occurs[9]. In regard to 'input and process', any misuse of funds, wrongful allocation of resources, or inappropriate use of instructional time can also be deemed as school wastage.

The definition of school wastage in this study is defined in the Armenian context as the notion of student participation in school education, the inefficiency of student flows, and student performance within the school system; measures of student dropout, repetition, completion, attendance and academic performance grades are used and analyzed. In Armenia, the term school wastage has generally been understood to be the problem of students dropping out, children not registering in school, students failing exams and repeating the year, students frequently missing classes, and students failing academically. It is this commonly understood concept that is specifically studied in this research. Although this is a tapered definition of school wastage, it focuses on the core issues related to educational participation, retention, and academic performance without which nothing successful in school could take place. In fact, this is a pre-condition for any further outcome-oriented analysis of school wastage.

In the past few years, school wastage in Armenia has become an increasingly disturbing problem, requiting urgent attention from policymakers. Although attempts to stop the worsening situation have been made by the government in recent years, current data indicates that no significant improvement has been made. In fact, the reality is getting worse and this issue remains a major challenge.

III. Methodology

Phase 1

The study in phase 1 is a case study that takes a qualitative approach by using three key methods: (i) conducting focused but unstructured interviews with a wide range of educational stakeholders and policy implementation managers in Armenia; (ii) conducting desk reviews of key education documents, policy strategy reports, analytical studies, data publications on education; and (iii) visiting schools to make observations and gather information on student enrollment and participation in schooling to enable cross-checking of data and its sources.

9. We may better understand the concept if we picture an ideal scenario—i.e. no school wastage occurs if an education system enrolls 100 percent of all school-age children in the population (usually 6-18 years old), with no repetition, absenteeism or dropout throughout the schooling process, and who all graduate with demonstrated success within the expected time frame using the educational resources allocated. Although the ideal scenario does not exist in the world, the statistics and reality of school wastage varies from country to country. In the worst cases, many students fail to receive expected educational benefits or returns, and the problem is rapidly deteriorating.

Focused but Unstructured Interviews

Focused but unstructured interviews were designed and implemented to identify opinions, concerns, and the roots of different problems. The interviews were focused in that they centered on the key issue (school wastage) and its related factors. Participants were encouraged with complete anonymity to offer "real facts" and "frank opinions" on all possible issues of school wastage. The interview method was consistent throughout all interviews, encompassing educational stakeholders at all levels of the educational hierarchy (educators from MoES, various centers and institutes, provincial offices, schools, etc.). The findings have provided useful qualitative information on what the "system insiders" know as the "reality" of school wastage and how truthful and consistent the "opinions" are across all levels of the education system.

Desk Review of Key Policy Document and Published Data

Desk reviews of various recent key documents were conducted, including educational plans, policy study reports, strategy papers, surveys and official data publications. The reviews focused on relevant policies and published data about Armenian student participation and retention in schools. The data was purposefully collected from recently published documents so they could be used alongside the findings of other data sources (including interviews) and help to inform Phase 2 of the study. In addition, the desk reviews provided an initial estimation of the current analytical capacity to use data and evidence for developing policies and giving guidance to the education sector.

Visits to Schools, Data Centers and Regional Education Offices

The research method in phase 1 also included visits to schools, regional education offices, and data and information centers to randomly check data and data sources. Some ad hoc on-the-spot sampling methods were used to conduct a quick assessment of certain critical issues of school wastage. For example, a quick on-the-spot check of school registration books and student attendance ledgers were done in several schools to identify how data was captured and how consistently it was done across the country. These quick and preliminary assessments helped to reinforce knowledge and understanding of school wastage—its validity and reliability—and also helped to formulate new hypotheses for Phase 2.

Although the study period for Phase 1 was short, the results of the study and the consequent recommendations appear particularly sound.

Phase 2

Phase 2 was a quantitative and in-depth research study focusing on student absenteeism in Armenia—one of the country's most critical but under-investigated school wastage issues. The design was well informed by the results of Phase 1 study and was a follow-up. Phase 2 uses both quantitative and qualitative methods to study the extent to which student absenteeism exists and why student absenteeism occurs in the country.

The objectives of Phase 2 are fivefold: (i) to assess the extent to which student absenteeism exists in Armenian schools; (ii) to find out student absenteeism trends in recent years; (iii) to learn why absenteeism occurs and what causes absenteeism in the local context; (iv) to discover the extent to which student absenteeism may contribute to Armenia's school wastage; and (v) to recommend policy strategies that solve the absenteeism problem as part of an overall reduction in Armenia's school wastage.

Research Questions for Phase 2 Study

To what extent are Armenian students absent from school?

The study intends to identify: 1) how often and for how many hours students are absent from schools; 2) which students from which grades are more likely to be absent from school; 3) where the most and least absentees occur in the country; 4) which period of the academic year absenteeism is most common in; 5) the trend of student absenteeism in recent years.

What school and non-school factors may explain student absenteeism?

Specific questions include: 1) does the location of a school help predict the degree of student absenteeism?; 2) does class size affect student absenteeism?; 3) is there gender difference within absenteeism?; 4) do parents' occupations explain varying degrees of absenteeism?; 5) is student academic performance correlated with student absenteeism?

Which schools have the worst absenteeism and which have the best attendance? Why?

Aggregation of student absenteeism data from across the provinces will enable all schools to be ranked according to worst and best student attendance. This list will inform a further investigative inquiry on why students are absent from schooling. Interviews with school principals, teachers, students and parents may help uncover explanations and reasons for Armenia's absenteeism.

Based on the study results, what national and local policies can be developed to effectively prevent absenteeism?

Once data on absenteeism has been analyzed and the problem better understood, it will be possible to ask what responsibilities might need to be taken at national, provincial, and local school levels in order to prevent absenteeism. Some policy options and recommendations may be developed based on the results of the study.

Data Collection for Phase 2 Study

In Armenia, all schools have had well-kept student attendance ledger books for many years. These books systematically record and summarize individual student daily attendance in all classes and weekly performance grades. This is the main data source for Phase 2 of the student absenteeism

and academic performance study. Data on student attendance and academic performance have remained in paper form in all schools and have never been thoroughly and systematically studied or analyzed. The quantitative component in Phase 2 data collection involves the process of transferring data from paper to electronic form.

Sampling for the study encompassed 151 schools, which were randomly selected from Armenia's 1,319 public schools (general and basic schools)[10]. Data for 2007 on all 1,319 schools were provided by the EMIS office of MoES (i.e. district, school name, school address, telephone number, general enrollment and teachers).

Data from three years of student attendance records were collected and studied from all the randomly chosen schools in all 11 provinces (including Yerevan) of Armenia. The three years were the academic years 2002-2003, 2004-2005 and 2006-2007 (two years were intentionally omitted, 2003-2004 and 2005-2006). One class in each of the five grades (2, 4, 6, 8, and 10) was also randomly selected in each school and data on individual students in the selected classes was collected[11]. Specific pages of the ledger books (containing attendance lists and academic performance) were photocopied and collected[12]. Data collectors from all provinces were hired to carry out data collection tasks, and training on how this process should be carried out and which specific pages of the ledger books should be copied was provided to them all.

For the in-depth study in Phase 2, a separate qualitative design was developed to enhance understanding of the issues associated with student absenteeism and school wastage. Based on the results of the quantitative data analysis, groups of schools with the worst and best absenteeism were identified in each of the 11 regions. Qualitative interviews and focus groups with school principals, teachers, parents and students were designed and carried out.

IV. Research Findings from the Study

The following section reports all the major findings of this comprehensive study in both Phase 1 and Phase 2. As mentioned earlier, these findings have as their basis multiple interviews of educational stakeholders, field visits and observations, thorough reviews of published policy papers and documents, and statistical data analyses. Having followed the generally accepted framework of scientific inquiries with its accompanying analytical integrity, we are pleased to present the findings of the study of school wastage in Armenia.

1. *Student Dropout*

Student dropout is regarded as "a problem but not serious" by almost all of Armenia's educators and educational practitioners spoken to. Many discussions with them about dropout in Armenian

10. The figure 1,319 for 'total number of schools' was provided from an electronic database at the EMIS center. It is recognized that in the 2006-07 academic year, according to a publication by the Statistical Service, there were in fact 1,426 public schools. The discrepancy could not be explained. However, for the purposes of this study, a random sample of 10 percent of the database's 1,319 schools was taken. In the end, 11.4% of schools were randomly outputted by the computer program and consequently there were 151 schools in the final sample.
11. Data from a total of 15 classes of three years in each school were gathered; thus a total of 2,265 classes of 3 years in 151 schools were studied.
12. Each regional office was given a photocopying machine by UNICEF as an incentive to participate in and cope with the necessary work-load of data collection.

schools and provinces revealed that the most common response to inquiries about student dropout is "we don't have a big problem of dropout; we have only a few cases." While it is difficult to judge if they are in denial (perhaps because of the former Soviet mentality), ignorant of the system's indicator trend, or just sincerely believe that it is "not a big problem", a systematic analysis of the issues of dropout was conducted.

In Armenia, dropout rate is an important indicator of school wastage according to common understanding. It is widely accepted that if dropout rate is low, school wastage should not be considered a big problem. Is dropout a serious problem in Armenia? To answer this question, we need to first understand the definition of dropout and then examine official statistics and finally form a real dropout profile for Armenia's schools.

Definition:

A dropout is an individual student who was previously enrolled in a school and has discontinued schooling indefinitely or has not graduated from the required education program cycle. Dropout does not include school-age children who have never been to school.

According to official statistics in Armenia, dropout rates have been relatively low compared to many other developing and developed countries but have grown at an alarming rate annually. During the years of 2002-2003, 2003-2004, and 2004-2005, total dropouts were 1,531, 4,823, and 7,630 respectively and dropout rates were 0.3%, 1.0%, and 1.6%[13]. Some in Armenia may argue that the national statistics on dropout is over-stated because some of the dropouts counted left schooling because of "inability to continue study" (e.g. mental or physical disabilities). However, by counting those who clearly stated reasons as 'unwilling to study, poverty, parents don't want them to' or other non-disability related reasons, total dropouts were in fact as high as 1,417, 4,753, and 7,534 (Education in Armenia 2003, 2004, 2005). The statistical profile of Armenia's dropout rate is concurrent and the overall trend is ominously worsening.

The percentage increase in dropouts during these 3 years has grown annually at an average rate of 250%. There is little doubt that the trend in dropouts from Armenian schools is worsening and that if it continues at the current rate of increase, Armenia will soon have to deal with very negative consequences. Many research studies have shown that dropouts not only fail to complete required education, which significantly impedes their future employment opportunity, but they are also likely to cause social and economic problems for society. Dropping out of education is one of the major contributors to school wastage. Dropouts themselves may even have a lasting negative impact on future generations. If the dropout problem is not halted, the current structural changes (from 10 years to 12 years of education) will only result in more dropouts or more students who will not have completed high school within the expected timeframe.

Analysis of the dropout problem shows that in the past 3 years, the chance of younger students in lower grades (7-13 years old) dropping out has proportionally increased at an even faster rate. In 2002-2003, there were 235 student dropouts who were from 7 to 13 years old in Armenian schools. In 2003-2004, the same age cohort dropout number went up to 2,368 (that is more than a

13. The dropout figures were carefully recalculated and compiled from EMIS publications, EDUCATION IN ARMENIA, page 52 (2003), page 59 (2004) and page 59 (2005). For these 3 years, total numbers of students in all schools in Armenia were 520,579, 501,886, and 490,549 respectively. The dropout rates do not include transferred students or students with extended absenteeism. (Education in Armenia 2003, 2004, and 2005.)

1,000% increase) and in 2004-2005, the number increased to 3,620. This dangerous growth rate of younger children dropping out must be stopped.

The sentiment that "the dropout situation is getting worse" has already been felt by many school officials as well as some education officials in Armenia's provinces. Many did not hesitate to tell anecdotal stories explaining why students could not continue schooling even though most still believe that "this is not a big problem". In summary, the following are a few stories offered by principals and local education officials during interviews:

5) "Some students can't continue to come to school because they need to work to support their families. In one case, a 12-year old student had to quit school because he is the sole bread-winner in the family—his father had died and his mother was disabled. He has two younger siblings at home. What can you do in this case? Of course schooling is not the family's main concern. To survive and live is surely more important for the boy and his family."

6) "Students are attracted to making money. A 13 year-old boy works on a local public minibus as door handler during the day and is often absent from classes for this reason. He makes more than a local school teacher—it is an attractive opportunity for earning. These days there are a lot of such economic opportunities in the non-formal sector now open to young school children. So, school is not attractive any more."

7) "Some of the young girls get married in rural areas. Once they get married, it is impossible for them to attend school." In one rural school visited, in the 3rd grade class student gender was somewhat balanced, but in grade 8, there was only one girl in a class of 14 students. The principal commented that "it was just coincidental."

8) "Some of my students can not afford shoes or clothes for going to school. Students must also buy textbooks… It is not like in the old days when textbooks were free…" In some classes visited, students sitting together were sharing one textbook between them. Although schooling is officially free, poor families have trouble to keep up with the hidden expenses of going to school.

9) "Parents do not see the practical value of education for their children any more. Some consider that the educational gains from schooling are irrelevant or minimal in comparison to alternative work opportunities. You can become quite rich without schooling today. In the old days, schooling was the path to a bright future. Today, who knows?"

10) Some parents believe that their children are not "good material" for learning in school and so they have their child leave school. Some parents said that "school work is too academic, too abstract, and too theoretical—it is not practical enough for our child and his future"

Although these are just a few anecdotal stories from interviews in schools and provincial centers, they provide useful information on how parents feel about children's schooling and what policy areas may need to be focused on by educational policy makers. These stories indicate that many factors contribute to dropout and its worsening trend. Some are social and economic factors,

others are family and household, and still others are related to personal choices springing from the current "freedom and opening-up of opportunities". However, educational policy may play a key role in halting Armenia's worsening dropout trend.

Previous studies have also identified additional causes of student dropout. These causes may also exist in Armenia although no one voluntarily mentioned them during our interviews with officials from schools and provincial centers. They are:

1) Students drop out because of poor teaching quality (McGinn 1992). When a teacher's class is "boring" in a particular subject, students may lose interest in that subject; when there are many "boring" classes in different subjects, students lose interest in school.

2) Some students drop out because they lack a sense of "belonging to the school community". (Rumberger, 2001; Osterman, 2000). "I don't like my teachers", "I don't belong to school" or "I hate schooling" reflects the typical attitude of students who drop out. If a teacher fails to care about students' academic development or fails to motivate students this teacher may not be liked. If most teachers fail to care about students or fail to excite students, the schooling may not be liked.

3) Students drop out because they fail in exams and are told to repeat (Schiefelbein & Heikinnen, 1991; Roderick, 1995). It is too embarrassing for some students to repeat a year in the same school. They prefer to transfer schools if they have to repeat. But if they can't transfer, they prefer dropping out if the parents don't mind. Often they will find another excuse/reason to explain why they are dropping out such as "having to work to support my family" or "work is more interesting than learning in school" or "I learn more in the workplace than in school".

In addition, research consistently indicates that the consequences of school dropouts are extremely negative by all social and economic investment measures. It is damaging for the individuals, the school, the local community, and the country. A school dropout is much less likely to find employment and contribute to society, the community, school or family. School dropout is a key contributor to school wastage. The more dropouts there are, the worse school wastage is. Thus, the growing dropout problem in Armenia must be stopped. Below, the report will further substantiate the dropout problem and its worsening trend by examining the data collected during Phase 2 of the study.[14]

2. *Repetition*

Repetition, a key school wastage indicator, is another issue that many Armenian educators do not associate with their school system. In Armenia, a typical response from schools and other education officials is "we don't have a repetition problem" or "there are only a few reported cases of repetition in Armenia". While it is true that official statistics in Armenia do not suggest any cause for concern, there may well be hidden problems under the statistical surface.

14. The additional data is collected from schools in order to study student absenteeism, but it clearly confirms that there is a major dropout problem.

According to annual education statistical publications, all 3rd, 8th and 10th graders are required to sit national examinations[15]. If students from these grades pass the respective grade exam, they get promoted to the next grade or graduate (under the current system). If they fail the exam, they repeat. The number of students who repeated a year during 2002-2003, 2003-2004 and 2004-2005 were 1,094, 979, and 1,092 respectively. Thus, the figures are relatively minor and and consistent for the past 3 years. In terms of repetition rate, they were under 0.2% in all listed years. Evidently, this rate is low in a country that does not have an explicit policy for automatic promotion of students for their 10 years of pre-tertiary education.

However, Armenia's official statistics on repetition need to be read with caution. This is not because official statistics are unreliable but because the practice of data submission and exam administration is questionable.

It is known that Armenia's pass rates for nationally standardized exams are very high. For example, in 2003-2004, the pass rates for grades 3, 8 and 10 were, on the average, 97%, 97% and 98% respectively. In some provinces, there was not one student from all three grades who failed these standardized exams. For example, in Aragatsotn and Vayots Dzor, all students in grades 3, 8 and 10 passed their exams (Education in Armenia 2004, p60). It is surely an extremely "rare case" that all three grades from all the schools of two provinces should record no failure. It is almost statistically impossible for one grade in all the schools of just one province to obtain a perfect pass rate, not to mention a perfect pass rate for more than 7,000 students from grades 3, 8, and 10 in all the schools of one province.

This raises questions about the credibility of the statistics. In fact, the suspect results can be well explained by the way that the nationally standardized exams are graded. It was learned that standardized exams are actually graded or marked by the individual subject teachers of each school. Although there is a national guideline for grading the standardized exams, teacher subjectivity and inflated exam results can hardly be avoided in Armenian schools. Thus, the centrally designed but locally graded exam results should only be used for "informative assessment"[16] and not for overall assessment—and never for determining student promotion/repetition. Of course, students must pass exams to be promoted; however, the nationally standardized but locally graded exams appear to be too dependent on local individuals' subjectivity and are thus able to hide "real pass rates"[17] (which are directly linked to Armenia's "real repetition rates"). Repetition rates usually measure two different educational constructs: internal efficiency and the quality of those promoted. Thus, it is evident that the current policy and practice of high-stake exams being centrally standardized but locally graded is likely to lead to a false picture of high student promotion rates and excellent academic performance.

15. A new national standardized examination system was been tested in two subjects in October 2006 and was implemented in 2007.
16. Informative assessment is meant to let each subject teacher learn which areas of the subject taught have not been learned well so that he or she may focus on those components immediately (the teacher must be committed and motivated and know how to conduct self evaluation and analyze exam data).
17. A 'real' pass rate may be generated by basing results on centrally standardized and centrally graded exams (not centrally standardized but locally graded exams).

3. *Transfers*

Student transfers are well documented in all of Armenia's schools. Any individual student who plans to transfer from one school to another must submit: 1) an official application to the current school from a parent or guardian; 2) a signed admission form from the recipient school. Both principals from the schools involved must then sign a single form (the transfer form). A scrupulous verification[18] follows before official transcripts are actually transferred[19].

For those leaving the country, the official process is in fact simpler. There is no need for recipient school information since many leavers may not even know how they will be enrolled in other countries. In the past few years, transfer have come more from students leaving the country than from students transferring domestically. For example, the following table provides aggregated statistics on student transfers for the last 3 years.

School Years	Transfer out to another province	Transfer in from another province	Transfer out to another country	Transfer in from another country
2002-2003	2,167	2,669	4,547	1,789
2003-2004	1,518	1,425	2,968	1,950
2004-2005	2,670	4,915	4,109	2,063

Official Publications: Education in Armenia (2003, 2004 and 2005)

The official statistics above highlight several important issues and also raise further questions:

1) The number of student transfers within the country is inconsistent between transfer out and transfer in. One would expect that the number of students transferring out should be the same as the number of students transferring in within the country from year to year. This is, however, not the case according to the published statistics. Normally, discrepancies are acceptable to a few percentage points due to miscalculations, data reporting errors, and missing data (as exemplified in 2003-2004). But the discrepancies in the other years (2002-2003 and 2004-2005) are unexpectedly large, particularly in 2004-2005. This raises questions about data accuracy, the reporting process, data aggregation procedures, and the actual transfer registration process. Discrepancy of this magnitude, particularly when there is no officially published explanation provided, may lead to institutional and public distrust in data, creating an unnecessary culture of official education data being discredited.

2) The number of student transfers within the country only show transfers between provinces. What about transfers within the provinces themselves? It is Armenian educational policy that parents may select a school for their children, but it is not known or reported how frequently parents do so and whether students transfer within provinces or municipalities. This raises other related questions: Are there under-selected or over-selected schools or classes in a single

18. The verification process includes parent's face-to-face interview, specific recipient school acceptance/agreement, reasons for transfer, addresses and phone numbers of all involved, official signature and seals, etc.
19. Each student has an official record file in which personal data, school transcripts, and performance records are contained. The official student file is kept in the school where the student is studying and the file goes with the student if he or she transfers to another school.

district? What do schools and teachers do to retain their students? Are there any students who get "lost" if local transfers are not officially recorded?

3) The data also shows that in the last 3 years the number of students leaving the country is as twice as much as the number of students arriving from other countries. Due to a decline in Armenia's school age population since the country's 1991 independence, many schools have been operating under their designed capacity. If population continues to decline, as predicted by the Armenia 2001 Census (at http://docs.armstat.am/census/engcontent.php), and the large outflow of students to other countries continues, many schools in Armenia will face more and tougher challenges to remain open while functioning under capacity. In all schools visited, principals told how they could have housed more students given the current school utilization capacity. This is another indication of school wastage—the extent to which physical resources and educational facilities are utilized. School utilization capacity is often expected to fluctuate somewhat in the provinces, particularly in a fast growing economy due to increasing labor population mobility. But nationally, overall school utilization capacity should be quite stable in an education system in which more than 98% of school-age students are enrolled. In Armenia, given the fast changing trends of population mobility, school utilization capacity must be investigated every few years. It should be closely monitored in order to better utilize educational resources and facilities in a changing environment.

4. *Absenteeism*

Prior to this study, no comprehensive statistics on absentees in Armenia existed, although the government does collect aggregated data from provinces, which collect aggregated data from local schools. The annual publication "Education in Armenia" has never reported statistics on absenteeism. The aggregated statistics on absenteeism, available from the EMIS center, does not really report actual absenteeism—in fact, it is quite misleading. In the school census data collection form, all of Armenia's schools are asked only one question about absenteeism—they are asked to report the number of students who are absent for more than 160 hours[20] during a school year. The summary figure on number of absentees from each school is of course much smaller. In certain schools there may not even be any "absentees" on the official books even though, by international standards, they may have serious problems of absenteeism.

Visits to schools confirmed that the number of "permissible absent hours" have increased to 240 hour as national policy since 2003. This is equivalent to 10 weeks of schooling time. According to Armenia's new national curriculum, 34 weeks of schooling per academic year are required for each child (National Curriculum for General Education 2004, p.40). Thus "permissible absent hours" constitute almost one third of the new curriculum requirements. The current 240-hour policy on absenteeism is clearly too "relaxed". It may even have provided a legitimate "excuse" for students to be absent from school. This surely makes statistics on absenteeism look better than they are in reality (all other things being equal) and leads to a masking of any increasing absenteeism.

20. Until 2005, it was national policy that no student can be expelled or considered as a dropout as long as the student has less than 160 hours of absent classes in one academic year. Since 2003, this has increased to 240 hours for any given student.

To ascertain a real picture of Armenia's student absenteeism, a comprehensive study on student absenteeism was conducted as a part of the overall investigation about school wastage. The study is intended to inform educational policy-makers in Armenia of the extent to which student absenteeism exists and indicate what needs to be done to deal with the problem. Since absenteeism was the focused theme of Phase 2 of the study, major findings are presented in this section.

4.1 Observations about Absenteeism in Armenia

During Phase 1, it was discovered that data on daily absentees had been well collected and kept in all schools. Every class in each school unbendingly follows the rule of counting and booking absentees; the tradition of "keeping records" has been remarkably maintained. This provides detailed records of the total number of hours each student takes on a weekly basis for every subject. During visits to schools, several student attendance ledgers in several schools of different provinces were examined and it was impressive how each individual student's attendance for each day in each subject had been logged. It is simply remarkable that there is in fact such a individual-based, daily-recorded, subject-specific database that is available in every school. However, this data may still under-represent the reality. There have been "incidents" when students were absent from regular classes, but were not reported or booked as absent because they took private lessons with the same teachers who taught the regular school classes. In fact, such students are very likely to pass the standardized exams because the same teachers are responsible for grading those exams.

Nevertheless, the existing data on absentees can be very useful. For many years this extensive data has remained in paper/book form at the individual schools and has not been used for any system-wide analysis. It is almost certain that this data could help unlock the mystery of the key "contributor" to school wastage in Armenia—student absenteeism.

Based on random sampling while visiting schools in Phase 1, it was estimated that there could be as much as 10 percent of students absent from classes on a daily basis in that year (2006)[21]. Almost none of these absentees are reported under any of the wastage indicators since they are not included in dropout, repetition, or those who are regarded as absent for more than 160 hours (previously) or 240 hours (presently). If the estimate of a daily rate of 10 percent absenteeism is confirmed, an additional 10 percent of "school wastage" will be incurred on top of the other factors. Indeed, if such absenteeism exists then the human, financial, curriculum, and physical resources that have already been allocated to each of the schools are never turned into the expected educational "benefits". Schools would have to make additional investment (in terms of time and money) to make up the total absent person hours—if indeed the absentees wanted to catch up. Moreover, a rate of 10 percent absenteeism would surely put the Armenian education system on the world's "doing poorly" list of student absenteeism.

It is reported that students are absent from classes in Armenian schools for the following reasons

21. When we randomly reviewed a few daily pages of absentees in two different schools, the proportion of daily absentees recorded there was between 9-12 percent. Although this is not by any means a 'scientific' estimate, it helps us form good hypotheses on the issue.

(there is some overlap with the causes of dropout):

1) A student is sick. This is universally the most common reason for being absent from classes. However, according to an ERS report (1977), an expected (normal) rate of absence due to illness is about 8 days on the average in an academic year. Under normal conditions, this figure has remained at a similar rate for many years in the United States (in Massachusetts, the expected rate is 6 days per academic year).

2) Students are asked to do work for their family or relatives. Work related to farming (e.g. looking after livestock) or household chores (this only affects girls) is often seasonal or ad hoc. For example, in one Yesidi village school, the principal explained that in spring time (April and May), more students are absent from classes because they need to take cattle to grazing land. It would be devastating for their livelihood if their kids did not do this (primary school students are just the right age for this job).

3) Students, particularly in higher grades (8-10), need to take private tutoring to prepare for higher education entrance exams. Many parents and students consider teaching and learning at school irrelevant and of poor quality—they think that spending time in the classroom with school teachers is a waste of time and that in this context these teachers are not able to adequately prepare students for university entrance exams. Many prefer to pay private tutors for private lessons instead of going to school classes. It is not known exactly how extensive this problem is. An informal street survey suggests that private tutoring overwhelmingly prevails in Armenia's final grades (grades 9-10) in both urban and rural regions. Some mentioned that it is now an accepted norm that parents must hire private tutors when their child is in secondary grades. This issue urgently needs a comprehensive study in order to guide and develop relevant educational policies.

4.2 Literature on Absenteeism

Previous research studies on absenteeism in other countries have identified several other major causes of absenteeism. These are:

1) School factors:
   a) ineffective teaching;
   b) teachers attitude toward attendance;
   c) personality conflict with teachers;
   d) inequity of school reward system;
   e) arbitrary and inappropriate curriculum standards;
   f) lack of attendance monitoring;
   g) peer pressure;
   h) teacher absence;
2) Personal factors:
   a) lack of motivation in school learning;
   b) lack of self confidence;
   c) emotional events;
3) Family factors:

a) broken family;
b) economic hardship;
c) lack of parental supervision;
d) family activities;

4) Other factors:
a) lack of transportation;
b) lack of sports facilities.

(Porwoll 1977, LeCompte & Dworkin 1991, and Devadoss & Foltz 1996)

Some of these factors also exist in Armenia, as reported below.

The negative impact of absenteeism on the entire education system and society is well documented. According to one of the most cited reports on absenteeism (ERS research report in 1977), the negative impact stretches "from pupils whose learning is permanently affected, to teachers whose instruction is often disrupted, principles who must account for empty desks, superintendents who must rely on attendance for state aid, attendance officers, home school counselors and law enforcement officials who must contact the parents and locate the absent students, and local businesses who complain of daytime problems or losses due to adolescent misbehavior." Also, based on this well documented report, the estimate of Armenia's 10% absenteeism rate (if confirmed) would put Armenia at the level of US absenteeism between 1958 and 1961.

4.3 Findings of Student Absenteeism Study

As mentioned above, data was randomly collected from 151 schools in all of Armenia's 11 provinces and three years of official school ledgers in all the selected schools were examined (2002-2003, 2004-2005, 2006-2007). Randomly selected classes from five grades (2, 4, 6, 8, and 10) in each of the three years were carefully studied. For each year (both terms), summary student records of absenteeism (number of hours) were obtained[22], accounting for a total of 44,731 students. This is the first time that Armenia's existing data on student absenteeism—from multiple years, multiple grades, and all regions of the country—has been disaggregated and centrally and systematically gathered, organized and analyzed. A study of this magnitude is clearly scientifically significant and statistically reliable.

4.3.1 Student Distributions in the Study

Table 1 shows the distribution of students for the relevant years and grades. It is worth noting that the distribution of students in this study is very representative of the national student enrollment profile because of the layered, random nature of the study's selection process.[23] It can be seen that from 2002 to 2004 total student enrollment at a national level increased, but then from 2004 to 2006 it slightly decreased. This fluctuating trend in national enrollment over the past few years is well reflected in almost all the lower grades (2, 4, and 8). In grade 10, however, student enrollment steadily increased (not tracking student cohorts). This means that more 10th

22. Relevant pages of school ledgers were photocopied with the authorization of MoES and regional educational authorities.
23. A class is randomly selected within each grade within each school, the number of schools for each province being determined by the proportion of their contribution to overall enrollment.

graders have been in the school system year after year for the past few years. Is this because more students are repeating 10th grade because of failing exams? Or is it because the yearly increases of student enrollment in previous years have gradually flowed into grade 10? Further analysis below will help to better understand.

The distribution of students in these grades and years in the study may also indicate the flow (or movement) of student cohorts within Armenia's school system.[24] Student-cohort comparison (i.e. tracing student cohorts from a lower grade in an earlier year to an upper grade in a later year—a

Table 1: Distribution of Students in 3 years and 5 grades

		Grade Level					Total
		2	4	6	8	10	
Year	2002	2,865	2,950	3,145	2,704	2,219	13,883
	2004	3,013	3,289	3,211	3,356	2,606	15,475
	2006	2,932	2,977	3,276	3,263	2,925	15,373
Total		8,810	9,216	9,632	9,323	7,750	44,731

diagonal comparison in the table) reveals that the real problem lies in enrollment changes from grades 8 to 10. Enrollments in grade 10 in both 2004 and 2006 decreased significantly (by 4% and 13% respectively) when compared with the respective student cohorts in grade 8 in earlier years. This highlights a significant wastage problem since, as is well known, dropouts or "outflow" in higher grades are likely to be more "permanent" because they are unlikely to return to the system. Thus, the big drop in enrollment from grades 8 to 10 (whether it is cohort comparison or same-year comparison) needs to be fully investigated. However, there is already a hypothesis that some of these students have flowed into the private school system, which has been growing in Armenia in recent years. If the student "loss" from grades 8 to 10 was due to a flow of students into the private school system, it should not be considered as wastage; however, if the loss occurred due to students dropping out, it must certainly be deemed as wastage.

Table 2, shows how the students are distributed across Armenia's 11 provinces—the larger number of students from geographically larger regions and the smaller number of students from geographically smaller regions reflects the proportional differences in those provinces' population sizes.

24. Although this year-grade matrix does not indicate every flow element within the school system (such as transfer in and out or repetition), the overall system's student flow trend is statistically representative of the country's.

Table 2: Distribution of Students for three Years across 11 Provinces

	Year			
Province	**2002**	**2004**	**2006**	**Total**
Yerevan	2,482	2,846	2,905	8,233
Aragadzotn	943	1,025	924	2,892
Ararat	1,523	1,699	1,570	4,792
Armavir	1,140	1,316	1,294	3,750
Gegarkhunik	1,727	1,915	2,179	5,821
Lori	1,492	1,645	1,651	4,788
Kotayk	1,113	1,098	1,086	3,297
Shirak	1,391	1,558	1,473	4,422
Syunik	893	1,046	1,002	2,941
Vayotc Dzor	560	554	531	1,645
Tavush	619	773	758	2,150
Total	13,883	15,475	15,373	44,731

It can be seen that student enrollment in Yerevan and Gegarkhunik has steadily increased from 2002 to 2006 at an average annual growth rate of 4% and 7% respectively—a growth rate that is quite significant and steady.

Table 3 reveals a gender imbalance in the student population of Armenia's schools. There are more male students in school during early grades (up to 8th grade) than female students, but in grade 10 (perhaps grade 9 also) the trend is reversed—there are more female students in school than male students. However, data for the three years does indicate that gender imbalance in grade 10 in 2006 was less than in 2002 (male students accounted for 48% in 10th grade in 2006 compared with 44% in 2002). If student cohorts are tracked over these years (see diagonal arrows), it is clear that there is a "loss" of male students in grade 10 (the loss is likely in grade 9 as well). For example, in grade 8 of the 2004 student cohort, 52% of students were male (and 48% female), but when the same cohort reached grade 10 in 2006, the proportion of males had dropped to 48%. In both student cohorts, as the arrows indicate, there was on the average a 4% decrease in the gender ratio of male students. What caused this "loss" of male students in grade 10 deserves investigation. One thing that may be examined is student enrollment by gender in private schools over the past few years to see if there is a reverse picture of gender imbalance.

Table 3: Enrollment by Year and Grade according to Gender

Year		Grade Level					
		2	4	6	8	10	Total
2002	% Male	53%	52%	51%	50%	44%	50%
	Total Students	2,857	2,948	3,128	2,701	2,216	13,850
2004	% Male	51%	52%	52%	52%	46%	51%
	Total Students	3,013	3,280	3,203	3,352	2,580	15,428
2006	% Male	53%	50%	52%	52%	48%	51%
	Total Students	2,932	2,977	3,271	3,259	2,924	15,363

Since the 151 schools chosen for this study were randomly selected and the student cohorts were also randomly selected within each school, the enrollment data on gender imbalance seen in Table 3 should be nationally representative and reliably reflect the reality in Armenia. However, an examination of the same statistics at provincial level shows that gender differences in grade 10 vary—some regions experienced even higher levels of gender imbalance against male students. Table 4 shows that Yerevan's problem of gender imbalance seems to have worsened over the study period. Between 2002 and 2004, the male student ratio dropped 4 percentage points from 51% in 8th grade to 47% in 10th grade. Then the same ratio between 2004 and 2006 dropped 9 percentage points from 52% in 8th grade to 43% in 10th grade. This represents the worst trend in Armenia.

Although it is difficult to pinpoint reasons why the male-female ratio in 10th grade should drop so significantly and consistently in the country, the trend should alert the government to establish a tight monitoring and evaluation of the problem.

Table 4: Enrollment Gender Ratio for 8th and 10th Grades by Year and Province

Province		2002		2004		2006	
	Grades	8th	10th	8th	10th	8th	10th
Yerevan	% Male	51%	42%	52%	47%	53%	43%
Aragadzotn	% Male	45%	46%	49%	39%	56%	48%
Ararat	% Male	48%	44%	53%	42%	53%	47%
Armavir	% Male	51%	49%	47%	48%	49%	44%
Gegarkhunik	% Male	50%	51%	52%	49%	50%	51%
Lori	% Male	46%	35%	54%	42%	51%	52%
Kotayk	% Male	55%	46%	49%	53%	56%	47%
Shirak	% Male	47%	42%	51%	45%	51%	47%
Syunik	% Male	55%	46%	57%	51%	52%	50%
Vayotc Dzor	% Male	51%	50%	52%	42%	51%	48%
Tavush	% Male	49%	45%	49%	47%	55%	48%

Note: Colored columns (gray and yellow) indicate two student cohorts over the three academic years

4.3.2 Student Absenteeism

First, it should be noted that examination of 2,365 classes[25] in both terms over the three academic years showed that on the average 12% of classes had no student attendance records in the school. In other words, in the official school ledgers, some teachers had not recorded daily absentees or had failed to total up absences for the whole term as required. The resulting 88% studied represents 39,342 students—an incredibly sufficient and nationally representative proportion for analysis of the country's absenteeism. In fact, it is by far one of the best percentages of absenteeism record-keeping that exists among other studies.[26] The 12% of missing data is also randomly scattered across Armenia's 11 provinces due to individual cases when a teacher or principal acted irresponsibly.

In Armenia, a great majority of students have some records of absence in a given year and the trend is worsening in two ways. First, there has been a steady increase in the total number and percentage of students who have records of absence in an academic year during the period 2002 – 2006. Second, the higher a student's grade year is, the more likely he or she will have absences during the year. Both these trends are clearly shown in Table 5 below, which shows the percentage of students with a record of absence during the year.

The consistently worsening trends in the percentage and total number of absent students indicate that something has been taking place in Armenian schools over the past few years (and earlier)—it appears that students are increasingly less interested in school participation, which is, of course, one of the most important goals of educational development. It is a most severe case of school wastage if students are not participating in school education.

Table 5: Percentage of Students with a recorded absence by Grade and Year

Year		Grade Level					
		2	4	6	8	10	Total
2002	% with absence	72%	85%	89%	90%	95%	86%
	Total students	2,263	2,452	2,680	2,382	1,957	11,734
2004	% with absence	77%	86%	91%	93%	95%	88%
	Total students	2,541	2,958	2,810	2,911	2,407	13,627
2006	% with absence	79%	90%	92%	93%	96%	90%
	Total students	2,615	2,658	3,024	2,976	2,708	13,981

In order to gauge how extensive student absenteeism is in Armenian schools, the average number of hours of student absentees may be considered. Table 6a and 6b show how average numbers of

25. This figure is derived from the 15 classes in each school of the 151 schools studied.
26. Until Armenia's 88% record, the best case had been Lithuania, where 73 percent of attendance records were validly kept (studied in 2002).

hours are distributed by grade and year in fall and spring terms.

Table 6a: Average Number of Absent Hours (1st term in the fall)

Year		Grade Level					
		2	4	6	8	10	Total
2002	Mean	14.5	16.7	19.4	25.8	26.9	21.1
	N	1,163	1,586	1,991	1,846	1,567	8,153
2004	Mean	17.4	18.6	21.6	29.6	30.3	24.0
	N	1,364	2,021	2,176	2,312	1,958	9,831
2006	Mean	15.9	18.8	23.4	30.0	34.9	25.5
	N	1,501	1,975	2,372	2,444	2,369	10,661

Table 6b: Average Number of Absent Hours (2nd term in the spring)

Year		Grade Level					
		2	4	6	8	10	Total
2002	Mean	17.7	18.6	22.3	29.7	29.7	24.0
	N	1,236	1,698	2,001	1,908	1,627	8,470
2004	Mean	17.5	19.6	23.2	30.9	32.0	25.1
	N	1,589	2,188	2,250	2,400	2,078	10,505
2006	Mean	19.4	22.1	27.3	35.3	36.7	28.9
	N	1,656	2,083	2,387	2,502	2,349	10,977

It is evident from Tables 5, 6a, and 6b that not only are more students absent in higher grades and more recent years, but also that the average number of absent hours has steadily increased (i.e. worsened). In addition, students in the spring term have more absent hours on the average than they do in the fall term. Although Armenia's spring term is a week longer than its fall term,[27] this should not necessarily be the cause of its greater record of absenteeism; other factors may also be identified.

In order to understand the significance of missed hours, it is necessary to know how many hours students are expected to complete according to Armenia's official school calendar. In fact, the number of official hours that students are expected to complete is different for different grades. Table 7 takes this into consideration and represents average lost hours according to records of absent hours and required hours.

27. The two terms have 16.5 and 17.5 weeks respectively.

Table 7: Armenia's School Hours (Weekly and Yearly)

	Weekly Hours	Weeks in 1st Term	Weeks in 2nd Term	Yearly Hours	Average Hours lost (2006)	Average % Lost Hours (2006)
2nd grade	25	16.5	17.5	850	27	3.2%
4th grade	28	16.5	17.5	952	35	3.7%
6th grade	31	16.5	17.5	1,054	43	4.1%
8th grade	36	16.5	17.5	1,224	58	4.7%
10th grade	35	16.5	17.5	1,190	65	5.5%

It should be noted that average hours are calculated by taking into consideration all students who had some absent hours from school in a given year. In the case of grade 10, in 2006 (Table 7), 96% of all students had an average of 65 absent hours, which constitutes 5.5% of total school hours missed—a figure that is too high by any standard.

In order to make the data more comparable to other systems, the absent hours have been converted into lost days (a day consists of 5 teaching hours for the calculation). The following table (Table 8 on the next page) shows percentages of students with lost days by grade and years.

It is not difficult to observe that the number of students with 28 absent days or more per year (the last row of Table 8) has grown significantly in recent years for all grades (but the trend is more pronounced in higher grades).

In addition, gender difference in absenteeism is evident in Armenia. Male students are more likely to be absent from school than their female counterparts—that is true for all grade levels and all years studied. Data on the percentage of female and male students with absent hours (Table 9) shows that the percentage of male students with absent hours is always a few percentage points (ranging from 1 to 4 percentage points) higher than that of female students—even after taking into consideration the fact that absenteeism is worse in higher grades and in more recent years. Earlier in the report, it was noted that for grade 10 less male students enrolled in the school system (male to female student ratio) than female students. In addition to this, it is now apparent that male students are also more likely to be absent from school than female students.

Table 8: Absenteeism according to Number of Absent Days, Grades, and Academic Years

	2nd Grade			4th Grade			6th Grade			8th Grade			10th Grade		
Absent Days	2002	2004	2006	2002	2004	2006	2002	2004	2006	2002	2004	2006	2002	2004	2006
None	27.8%	23.3%	20.8%	15.4%	13.8%	10.0%	11.3%	9.0%	7.9%	9.6%	7.2%	6.7%	6.2%	5.5%	4.5%
1-3	36.1%	35.1%	34.8%	36.3%	34.1%	30.7%	29.6%	27.3%	26.4%	20.6%	20.2%	18.6%	18.9%	18.8%	16.4%
4-6	18.6%	19.4%	21.4%	22.7%	21.0%	21.6%	22.9%	22.3%	21.5%	21.1%	21.0%	20.8%	20.1%	18.5%	15.8%
7-9	7.7%	8.9%	9.9%	10.6%	12.9%	14.0%	13.7%	15.2%	12.7%	13.5%	12.2%	13.1%	16.5%	13.3%	12.9%
10-12	4.4%	5.1%	5.2%	5.9%	6.1%	9.0%	8.8%	9.9%	9.8%	11.3%	11.5%	10.3%	11.1%	11.4%	11.9%
13-15	2.5%	3.3%	2.9%	3.3%	4.3%	5.2%	5.4%	5.1%	6.7%	6.9%	7.3%	6.9%	8.2%	8.3%	8.1%
16-18	1.0%	1.7%	1.5%	2.6%	2.9%	3.6%	3.0%	3.6%	4.7%	5.4%	5.9%	6.0%	5.5%	6.9%	7.2%
19-21	.4%	1.2%	1.3%	1.1%	1.6%	2.4%	1.9%	2.8%	3.0%	3.4%	4.0%	3.5%	4.3%	5.1%	4.9%
22-24	.7%	.9%	.7%	.7%	1.2%	1.4%	1.0%	1.6%	2.1%	2.7%	3.1%	3.7%	3.5%	3.8%	4.1%
25-27	.2%	.6%	.7%	.5%	.9%	.9%	.9%	1.1%	1.7%	1.3%	1.9%	2.8%	2.1%	2.4%	3.8%
28 or more	.6%	.6%	.8%	1.0%	1.2%	1.2%	1.5%	2.2%	3.5%	4.2%	5.8%	7.7%	3.5%	6.0%	10.4%

Table 9: Percentage of Female and Male Students with Absent Hours

	2002		2004		2006	
	Female	Male	Female	Male	Female	Male
Grade 2	71%	73%	75%	79%	78%	80%
Grade 4	84%	85%	85%	88%	89%	92%
Grade 6	87%	91%	89%	93%	91%	93%
Grade 8	89%	92%	92%	94%	93%	94%
Grade 10	93%	95%	94%	95%	95%	97%

It can also be seen that, on the average, male absentees have more absent hours than female absentees (Table 10). The difference is particularly apparent in higher grades (beyond 4th grade). By grade 10, male absentees have 26% more absent hours than their female counterparts in all years.[28] It is concluded that not only are male students in all grades and years more likely to be absent from schools, but also that male absentees stay away from school 26% longer. This implies that there are specific factors causing this trend that need to be identified.

Table 10: Average Numbers of Absent Hours by Female and Male Absentees

	2002		2004		2006	
	Female	Male	Female	Male	Female	Male
Grade 2	24	24	26	27	27	27
Grade 4	25	30	29	34	33	36
Grade 6	31	39	35	43	39	47
Grade 8	41	56	43	62	49	66
Grade 10	42	58	49	63	58	73

In summary, the data above shows that there are more male students absent from schools than female students and that on the average male students are absent for longer hours or days per year than their female counterparts. This gender imbalance is worse in higher grades.

The evidence shows that absenteeism in Armenia is quite extensive and has been worsening over the past few years. But does absenteeism have any effect on student academic performance in Armenia? Thus, this study also examines the relationship between absenteeism and student academic performance (as measured by academic grades).

4.3.3 Relationship between Absenteeism and Academic Performance

As indicated earlier, when data for student absenteeism was collected from the 151 schools, data on student academic performance and some limited data on the students themselves was also included. For example, data includes: 1) students' academic grades in different subjects (1-5 in Armenian language, Math, History and Foreign Language); 2) student gender (male=1, female=0); and 3) parents' employment (yes=1, no=0). For convenience of data interpretation,

28. The ratio is calculated by using the formula: (male absent hours – female absent hours)/female absent hours

students' absent hours are represented as absent days so that it is possible to see whether the number a student's absent days has any affect on his or her student academic performance (while also allowing for other family or character-related factors).

To clarify which data variables were used in analysis, the following descriptive tables present which hypotheses were behind the analysis. Table 11a shows average class size by grade and year in the study sample (gathered directly from class ledger books). This nationally representative data indicates that class size has consistently been increasing over the past few years in almost all grades. This trend corresponds with the fact that MoES has been implementing a school consolidation program, which by design inevitably leads to increases in class size and school size. However, the variable of class size was still selected in the analysis in order to ascertain whether class size is correlated with absenteeism.

Table 11a: Average Class Size

Year		Grade Level					
		2	4	6	8	10	Total
2002	Average class size in the study sample	22	23	24	23	19	23
2004		24	26	25	26	23	25
2006		24	25	26	26	24	25
Total		24	25	25	25	22	24

Table 11b displays average percentage of parents' employment status by grade and year. This variable is used as a proxy for measuring students' family socio-economic status (SES). Although it is not a perfect measure of a student's family SES, it is quite a consistent and standardized measure. Over time, it provides statistics for trend analysis. It is clear that the percentage of students whose parents are employed has been slowly but steadily increasing across all grade levels in the past few years. This does suggest that more and more parents are working as income earners in the household. The relevant hypothesis is that students whose parents work are less likely to be absent from school and therefore more likely to perform better academically.

Table 11b: Parents' Employment Status

Year		Grade Level					
		2	4	6	8	10	Total
2002	Percentage of parents employed	68%	65%	70%	72%	70%	69%
2004		69%	72%	72%	74%	75%	72%
2006		70%	75%	78%	79%	79%	77%
Total		69%	71%	73%	75%	75%	73%

In the analysis, the critical variable is academic performance. Data that is readily available is student performance grades (scaled from 1 to 5) in four core subjects—Armenian language, Math, History and Foreign Language. Table 11c presents students' performance according to this measure of limited scale.

One clear finding is that female students on the average outperform their male students consistently in all 4 subjects in all grades throughout all years. The consistency and extent of this kind of gender performance gap is not commonly witnessed elsewhere.[29] Even in math subject of the 8th and 10th grades, female students on the average outperform their male counterparts by about 15% in all 3 years.[30] This is a substantial gap, particularly given the narrow assessment scale of 1-5.

Table 11c: Average Student Academic Grades

Academic Score (1-5)	Year	Gender	Grade Level				
			2	4	6	8	10
Armenian Language	2002	Female	4.2	4.0	3.9	3.8	3.9
		Male	4.1	3.8	3.5	3.4	3.6
	2004	Female	4.2	4.0	3.9	3.8	3.9
		Male	4.0	3.8	3.6	3.4	3.6
	2006	Female	4.2	4.0	3.9	3.8	3.9
		Male	4.1	3.7	3.5	3.5	3.5
Math	2002	Female	4.4	4.0	4.0	3.9	4.1
		Male	4.1	3.7	3.5	3.4	3.6
	2004	Female	4.4	4.0	4.1	4.0	4.1
		Male	4.1	3.7	3.6	3.4	3.5
	2006	Female	4.4	4.2	4.0	4.0	4.1
		Male	4.1	3.8	3.5	3.4	3.5
General History	2002	Female	No history	4.3	4.1	4.1	4.2
		Male		3.6	3.7	3.6	3.7
	2004	Female		4.6	4.1	4.1	4.2
		Male		4.6	3.8	3.6	3.7
	2006	Female		4.5	4.1	4.1	4.2
		Male		3.9	3.7	3.6	3.6
Foreign Language	2002	Female	4.4	4.1	4.0	4.0	4.2
		Male	4.3	3.8	3.6	3.5	3.6
	2004	Female	4.4	4.1	4.1	4.1	4.2
		Male	4.1	3.8	3.6	3.5	3.6
	2006	Female	4.5	4.2	4.0	4.1	4.2
		Male	4.3	3.8	3.6	3.5	3.6

Another consistent trend deserves mention, observed in Table 11c. The average student academic performance level is slowly but steadily decreasing as students move to higher grades—and this holds true for both male and female students. This confirms that there is greater variation in academic performance among students in higher grades.[31]

29. A similar gender gap has only been seen in some Caribbean countries, such as Jamaica and Barbados.
30. Academic achievement literature often suggests that girls perform better in many academic subjects than boys during early years of schooling. However, in middle schools and beyond, particularly in Math, boys tend to do better. This trend is not seen in Armenia.
31. In fact, both standard deviation and statistical variance of student performance grades increases as students move up to higher grades.

Although it is not known what factors may cause this, it does imply that more students have a harder time performing in higher grades or that teachers are more rigorous in grading academic performance. Whether this is in fact related to a higher level of absenteeism will be discussed below.

The first step of the analysis is to correlate academic performance in all four subjects and all three years with absenteeism, gender and parent employment status. The results of this correlation can be seen in Table 12 and statistically confirm that: 1) female students perform significantly better than their male counterparts; 2) students whose parents are unemployed have a lower academic performance than students whose parents are employed; and 3) the more absent days students have during a school year, the worse the student performs academically. All the rank correlation results are statistically significant and are consistent among all four subjects for each year.[32]

Table 12: Pearson Correlation between Academic Performance and Gender, Parental Employment, and Absenteeism

Year	Academic Subject Scores (1-5)	Gender (male=1, female=0)	Parents' employment status (Yes=1, No=0)	Number of missed school days
2002	Armenian	-.145(**)	.048(**)	-.230(**)
	Math	-.240(**)	.045(**)	-.225(**)
	History	-.265(**)	.059(**)	-.217(**)
	Foreign Language	-.264(**)	.061(**)	-.208(**)
2004	Armenian	-.169(**)	.051(**)	-.224(**)
	Math	-.264(**)	.041(**)	-.232(**)
	History	-.280(**)	.052(**)	-.215(**)
	Foreign Language	-.287(**)	.055(**)	-.204(**)
2006	Armenian	-.163(**)	.034(**)	-.198(**)
	Math	-.261(**)	.026(**)	-.205(**)
	History	-.285(**)	.038(**)	-.183(**)
	Foreign Language	-.279(**)	.038(**)	-.165(**)

** Correlation coefficient r is significant at the 0.01 level (2-tailed).

The results of the paired correlations affirm that further analysis of the relationships is necessary to determine to what extent these relationships exist and how student absenteeism and other factors have a cumulative effect on academic performance. In other words, can variations in students' academic performance be legitimately explained by the level of student absenteeism and other characteristics such as class size, gender and parents' employment status? To answer this question, regression modeling was employed, with each of the four core subjects being taken as the dependent variable. The key statistical results are shown in Table 13 and explanations and implications are given below.

32. In Table 12, Pearson coefficient r is reported for each pair of the relationship. A negative value in the coefficient represents a negative correlation. However, it must be noted that this is a statistical artifact due to the coding of variables in the relationship; i.e. since female=1 and male=0, then the coefficient value must be positive. However, the interpretation is exactly the same—female students significantly outperform male students.

Table 13: Effect of Absent Days on Student Academic Performance (Subject Grades) allowing for the effects of Class Size, Student Gender and Parental Employment Status

	Armenia Language			Math			History			Foreign Language		
Explanatory Variables	*B*	*SE. (B)*	*β*	*B*	*SE. (B)*	*β*	*B*	*SE. (B)*	*β*	*B*	*SE. (B)*	*β*
Class Size	.004*	.001	.033*	.004*	.001	.035*	.002*	.001	.015*	.006*	.001	.047*
Student Gender (M=1, F=0)	-.243**	.009	-.145**	-.402**	.008	-.241**	-.443**	.011	-.260**	-.454**	.009	-.265**
Parent Employment (Yes=1, No=0)	.084**	.010	.044**	.076**	.010	.040**	.093**	.013	.047**	.103**	.011	.053**
Absent Days	-.069**	.002	-.203**	-.066**	.002	-.196**	-.052**	.002	-.163**	-.054**	.002	-.159**
R^2	.070			.108			.108			.109		
F statistics	664.9**			1065.4**			636.2**			903.9**		

Note: *B* is unstandardized coefficient, *β* is standardized coefficient, *SE.(B)* is standard error of the unstandardized coefficient, * represents p-value < 0.05, and ** p-value < 0.01

Table 13 contains the results of four regression models. Each model has one academic subject grade (1-5) as the dependent variable (or outcome variable) and class size, student gender and parents' employment as independent variables (or predicting variables). There are three key statistical indicators associated with each model and the interpretation of these should have important implications. They are:

1. an unstandardized coefficient indicated as *B* associated with each of the independent variables in the model, which indicates the level of impact each independent variable has on the dependent variable (after controlling for the effects of other independent variables);
2. a standardized coefficient indicated as *β* associated with each of the independent variables in the models, which shows the comparative level of impact the ranks of all the independent variables in the model have (e.g. which dependent variable has the biggest effect); and
3. the amount (or percentage) of variance in student academic performance (in each dependent variable) that occurs due to all the independent variables in the model, indicated as R^2. These three key statistical indicators are used to validate the conclusions drawn about relationships between student academic performance, absenteeism, and other relevant factors.

Significantly, the regression results in Table 13 show that in all the models (i.e. all four academic subjects), the predictors, class size, student gender, parents' employment status, and student absenteeism, cumulatively account for between 7 and 11 percent of variability in students' academic performance grades (R^2 and associated significant F-statistics**). This figure is considerable given the limited number of variables and the fact that the unit analysis is at the level of individual students.[33]

Class size is demonstrably related to student academic performance. Although the level of impact

33. In the world of literature of using regression analysis to explain student achievement or performance measure (student level variance), it is extremely rare to even find anything more than 30 percent (R^2) even with a lot of more predictors.

is relatively small in comparison to other predicting factors, as indicated by the standardized coefficients in these models, it still deserves attention. In all the models, the coefficients of class size are consistently positive, indicating that a large class will give a higher academic grade, regardless of the subject. It is estimated that between class sizes 30 and 20, there is an expected 10% variation in math performance (in favor of the larger class). Although it is not known exactly why this is the case in Armenia, it would not be surprising to find that it is related to students (or parents) being able to freely choose which class they are in. Clearly in this case, the classes in which there is a "better" teacher will be larger. Indeed, it was discovered that parents can choose not only which schools their children attend (within provinces or districts) but also the teacher or class. In addition, largest classes are found in urban areas, where the most qualified teachers teach. Therefore, the relationship between students' academic performance and class size must be interpreted in this Armenian context even though it is clearly understood that in theory at least smaller class size should be more conducive for teaching and learning when student-centered teaching methods are being used.

Gender is also a critical factor in predicting student academic performance. Female students consistently outperform male students in all subjects regardless of class size, whether parents are employed, and their level of absenteeism. This level of consistency in the performance gap between male and female students is rarely observed in other countries. Since the gender variable is a binary variable (male=1 and female=0), the coefficient associated with the gender variable indicates student performance variation between male and female students in a given subject. In math, history and foreign language, the gender coefficients are 0.40, 0.44, and 0.45 respectively. These statistics show that there is a variation of at least 10% between male and female students in performance grades in any of the three subjects and that female students always outperform male students. For the subject 'Armenian language', the coefficient is smaller (0.24), indicating a variation of about 6%, but, again, female students perform better. It is interesting that the relationship between gender and student performance is less pronounced in this subject. It is likely that in Armenia, this language is not exclusively learned in school, but the other subjects—math, history and foreign language—are generally confined to school. Overall, however, it can be stated that female students truly outperform male students in school-related learning.

Parents' employment status as a proxy measure also helps predict student performance in schools even after the impact of the other factors. The positive coefficient of the variable in the regression models shows that students whose parents are employed perform better than students whose parents are not employed. The difference is estimated at 2% in Armenian language, 2% in Math, 2.3% in History and 2.5% Foreign Language.

Given the above analysis, it is finally possible to consider the primary question under research—"does absenteeism effect students' academic performance even after the effects of class size, student gender, and parents' employment status have been taken into account?" The regression models clearly indicate a student's absenteeism is the second most influential factor (after gender) for predicting a student's academic performance (at the level of standardized coefficients).[34] The consistently negative coefficients associated with the number of students' absent days during the academic year indicate that the more days students are absent in a school year, the worse

34. Actually, in Armenian language, it is the most influential factor (β =-0.203).

they perform academically (even after effects of gender, parents' employment and class size have been taken into account). In fact, the statistics suggest that for every 3 days of student absence, there is an average 1.2% to 1.7% reduction in a students' grade (the degree depends on the subject). This prediction holds true, regardless of whether students are male or female, their parents are employed or not, and the size of their class. Moreover, when students who missed 1-3 days are compared with students who missed 28 or more days, the variation in their academic performance is between 16 and 18 percentage points. This suggests that absenteeism creates a tremendous gap in that year's school-based learning.

In order to be able to compare Armenia's student absenteeism with the international picture, students have been categorized into five groups based on their attendance records (number of absent days) and the international norm: 1) students with no absent days; 2) students with 1-3 absent days a year ("international best practice"); 3) students with 4-9 days (internationally common absenteeism); 4) students with 10-18 absent days (excessive absenteeism); and 5) students with 19 or more absent days (chronic absenteeism). Table 14 summarizes the relationship between student absenteeism and estimated student performance based on 2006-2007 data for Armenia.

Table 14: Categories of Student Absenteeism and Their Expected Performance Level

Based on 2006-2007 Data			
Category of Absenteeism	% Students	Cumulative % Students	Estimated Performance Level
No Absence (Perfect)	11.8%	11.8%	100%[36]
"International Best Practice" (1-3 absent days)[37]	26.9%	38.7%	96%
Common Absenteeism (4-9 absent days)	33.1%	71.8%	92%
Excessive Absenteeism[38] (10-18 absent days)	18.6%	90.3%	88%
Chronic Absenteeism (19 or more absent days)	9.7%	100%	84%
Total	100%		

Thus, by international standards, 28.2% of Armenia's students are considered to be 'excessive' or 'chronic' absentees. Their academic performance is estimated to be 12 to 16 percentage points lower than those who do not have absent days in the school year. This is a big problem

35. This 100% is used as a bench-mark, assuming that all other things are considered equal; if students with no absent days perform perfectly at 100% level, the estimated performance level is solely calculated on the predicted value of a regression model of all four subjects combined (i.e. a 1.5% reduction per 1-3 missed days).
36. Some countries are known for their commendable school participation rate, including attendance. These include Singapore, Japan, Korea and some states of the USA. According to a recommendation of the Center for Disease Control and Prevention in the US, students should automatically fail if they miss more than 3 days without an excuse. Their academic grade will be F.(Source: Am J Infect Control 2000;28:340-6.)
37. School attendance data from Ireland shows that Ireland has a high level of absenteeism (one of the worst in OECD). Primary school students miss on the average 11 days out of a school year of 183 days and secondary school student miss 15 days out of 167.

and exposes a major source of school wastage. The figure 28.2% represents 11,111 students of the sample, which in turn represents more than 141,500 students in the whole country's school system. This large number of students misses on the average 10 or more school days each year and performs 12 to 16 percentage points lower than they are expected to (even after other factors have been considered). This is surely a gross amount of wastage.

To sum up the findings from the regression analyses, the two most significant factors affecting students' academic performance are gender and absenteeism.[38] This means that female students consistently outperform male students and students with no or few absent days consistently outperform those with more absent days. It is possible, then, to predict that the best profile of students in Armenia would be female students with no absent days—they would on the average perform as much as 26 percentage points better than male students with 19 or more absent days.

At this point, a critical question remains: how accurately do the records of the school ledger books on absenteeism reflect the current reality in Armenia? An investigation by local researchers shows that data on books may not adequately reflect the reality—the real situation is much worse than the data suggests. In 2007, Armenian researchers from the National Institute of Education (NIE) and Armenia's National Statistical Service visited many classrooms in 23 schools in all of the country's provinces (including Yerevan) to try and measure the "discrepancy". They compared their observations (headcounts of students in the classroom) and school attendance ledgers and discussed the matter with school officials and teachers. Here are their relevant field notes:

- Teachers usually record absent students in the class ledger book at the end of the class session. It was therefore impossible to check if there was a discrepancy between the ledger book and the reality at the moment researchers visited the classroom.
- There were always missing students in the classrooms visited. In other words, there is always a difference between the total students listed in the ledger books and students counted in the classroom. However, when pages of previous days' attendance were checked in the ledger book, there were often no absentees recorded. That is surely dubious.
- In some cases, there were more absentees on the days prior to our visit than on the day of the visit. In other words, when schools were informed about visits, some made sure the attendance rate was high on that day.

The following two tables (15a and 15b) are taken from the report by local researchers and "showcase" two schools visited. They show the highest and lowest levels of absenteeism observed during the local researchers' school visitations. The results are deeply concerning—it is highly likely that the reality of student absenteeism in Armenia is much worse than the official data shows.

38. The absolute value in the standardized value represents the comparative extent of impact. For example, compared with other standardized coefficients in the model, the largest absolute value indicates the greatest impact (student gender except for the model in which Armenian language was the dependent variable).

Table 15a: Case Study of One Visited School (Highest level of Absenteeism)

Sampled grades and classes during the visit	Number of students listed in the school ledger	Number of students actually present on the day of the visit	Percentage of students who are absent on the day	Average annual absences in 2006-2007 academic year (%), according to entries in student attendance ledgers
Grade 2a	16	14	12.5%	No entries
Grade 2b	20	16	20.0%	
Grade 4a	27	26	3.7%	0.8%
Grade 6a	28	12	57.1%	1.8%
Grade 6b	24	6	75.0%	
Grade 8a	18	17	5.5%	3.2%
Grade 8b	17	10	41.1%	
Grade 10a	29	An exam in PT was in progress	-	2.6%
Grade 10b	29	An exam in PT was in progress	-	

Table 15b: Case Study of One Visited School (Lowest level of Absenteeism)

Sampled grades and classes during the visit	Number of students listed in the school ledger	Number of students actually present on the day of the visit	Percentage of students who are absent on the day	Average annual absences in 2006-2007 academic year (%), according to entries in student attendance ledgers
Grade 2	35	33	6.0%	3%
Grade 4	23	23	0.0%	6%
Grade 6	23	21	9.0%	9%
Grade 8	29	28	3.5%	8%
Grade 10	27	25	7.5%	6%

V. Qualitative Follow-up Study on Absenteeism

Why are students absent from Armenian schools? Do schools, parents and students view the reasons differently? What "policy variables" might exist (i.e. things that policy makers could change to make a difference)? To answer these questions, a qualitative follow-up study based on the preliminary results of the quantitative analysis was designed and implemented.[39] Based on the aggregate level of absenteeism, 22 schools were selected for visitation and focus group discussions. Across all provinces, 11 schools were selected for having the "worst" level of absenteeism and another 11 were selected to represent the "best" level of absenteeism. In these schools, the principals, teachers, parents and students were separately brought together to discuss reasons for student absenteeism. Their open remarks proved useful for learning about the worsening trend of student absenteeism and why it is occurring.

Parents' Opinions:

When parents were brought together, they mentioned numerous reasons for students' absences. Sometimes, they blamed the schools for failing to create the "right" environment; other times they blamed their own children for being irresponsible or lacking motivation to learn. Rarely did they blame themselves. Although it is difficult for parents to pinpoint exactly what the reasons are, they did mention some interesting cases that show how absenteeism may be connected to a number of different causes. One parent gave the example of his own children, saying that one child is always interested in school and always eager to go in the morning and attend classes while the other child is always looking for any reason or opportunity to miss school or classes. Although the school is the same for the two children in this case, they go to different grades and interact with different teachers and peers. Therefore, possible reasons for absence could be connected with teachers, peers, personal motivation or a combination of all of these.

Some parents expressed concerns about the amount of homework assigned by teachers. Excessive workloads and unnecessary academic pressure exists according to some parents. When some children cannot finish the required work, they do not want to go to school so that they do not have to face the "problem" or be ridiculed by teacher or peers. When some students receive fail grades, they simply want to give up school.

According to some parents, teacher absenteeism is a big problem and can also cause student absenteeism. Many teachers are absent from school, which sets a bad example for their students. Unfortunately, it is not known the extent to which teachers in Armenia are absent from schools and how much student absenteeism is caused by this. That could be the focus of another follow-up study.

In general, parents participating in the discussion disapproved of students being absent from school—most expected their children to study in school. Some parents even mentioned that they had transferred their children from other schools because student absenteeism was out of control there. In some cases, parents told that only 30% of students showed up each day for classes in those schools (in 10th grade).

39. The qualitative investigation was designed by Dr. Hua and then implemented by local researchers, who conducted field work and provided analysis.

Students' Opinions:

When speaking about the reasons for student absenteeism, students tended to blame the schools and classes. They often commented that classes were "boring" and homework assignments too large, or they pointed to 'social' problems in the school or classes. Many students considered that what they learn in school is irrelevant to what is needed in society—or, at least, they do not see the relevance for today's Armenia. It is likely that teaching in Armenia still follows the traditional rote-learning methodology, in which drill practice in class and memorization for homework tends to be a dominant criteria of learning standards. This, of course, is likely to change given the dramatic changes taking place across the world.

Teachers' Opinions:

Whereas students blamed boring classes for student absenteeism, teachers clearly put the blame on students (for not being motivated enough to learn in school) and parents (for keeping children at home to do household chores or farming). According to teachers, many students are absent at the slightest opportunity.

In rural areas, teachers frequently claimed that students miss classes because they had to work on the farm. Some families, according to this opinion, face a choice between hiring workers to do the farm-related work or keeping their own children to do it. Parents often decide to keep their own children to do the work. In some cases, parents keep their children at home to do farm work and then even hire other school-age children (some of whom come from urban areas). Children are considered as cheap labor in the market and are willing to do menial work for money.

Principals' Opinions:

In general, principals provided more a wide-ranging assessment of why students are absent from school. Social, family, student, teacher and school related reasons were all mentioned and discussed. In addition, some school principals believed that implementation of the new student-based funding scheme is to blame. According to this scheme, schools are provided annual funds based on the number of students enrolled in school. Some students and parents understand how this funding scheme makes schools vulnerable and use it for their "advantage". For example, if students intend to take many absent days (e.g. students in final grades who are absent in order to take private tutoring classes for high-stake exams) and the school has a strict approach to monitoring absenteeism, these students may threaten to register in another school (which does not monitor absenteeism so carefully or has a more "lenient" policy). As a result, schools with a good monitoring policy toward absenteeism may end up losing students to other schools that do not "care" and as a result, they lose enrollment-based school funding.

In summary, the reasons for absenteeism identified in the focus groups are not very surprising. Many in the country are aware of these reasons to some extent. In fact, many know the reasons for student absenteeism much better than they know how extensive the country's absenteeism problem is. The challenge is to openly recognize the problem and develop policies to address it.

It is interesting that the different focus groups all tended to "blame" others and seldom expressed a self-critical view: teachers didn't consider boring classes or providing private tutoring to be a cause; parents didn't mention keeping children at home for work or hiring other students; principals didn't admit that their school fails to provide a conducive environment for learning; and students never mentioned that they were not motivated learners. However, all these reasons mentioned by the different groups have validity and evidence to support them—they should all be taken seriously.

Focus group discussions also revealed some interesting stories about why students are absent from school; they play an important role in building up a picture of Armenia's reality. Although they are individual, anecdotal stories and thus cannot be generalized, they do help to appreciate why some students are absent and how some of them are treated.

1. "One pair of parents belongs to a religious sect that forbids their daughter (who is in final grade) to wear make-up or trousers. After a long dispute with her parents, the girl ran away from home and did not attend school for more than a month. In the end, the girl was brought home by the police. Through mediation, the parents agreed in writing that they would no longer coerce their daughter in this regard."

2. "In one village school, only French is offered to students as foreign language. The students are often absent from the French class because they all wanted to study English. Many end up taking private lessons to study English during French class hours."

3. "Two brothers were often absent from school because they took advantage of the fact that, because of seasonal work in a different location, their father was not present at home. Their mother could not convince them to attend classes in their father's absence."

4. "One student in a final grade class approached his class superintendent with a request: that he be granted permission to miss the last two classes every day in order to attend private classes. When the superintendent denied the request, the student's parent—as a threat[40] —went to the school to ask that his child be transferred to another school. In the end, the parent and school reached an agreement that the school administration would turn a blind eye to the student's absences as long as the student missed as few classes as possible."

5. "A superintendent in an elementary school was replaced by someone else who treated the children harshly and upset them. Because of this, one student refused to go to school and the parents could not convince her otherwise. In the end, they had to arrange a transfer for the student to go to another school."

6. "A family was relocated to a new apartment and neighborhood because of the devastating 1988 earthquake. But the family's children did not wish to be enrolled in a new school and continued to attend the old school in their original town. However, in order to do this, they had to travel long distances to get there. In winter time, they missed many school days and classes because of that."

40. This is potentially a threat because of the per-student funding scheme.

7. "One student told his parents that he was going to school but later in the day his parents received a call from the school telling them that their child was not at school. The parents were furious and decided to accompany the child to the school and wait outside the school until classes were finished. Only now does the student regularly attend classes."

8. "A student was absent from school for several days. So, the class superintendent made a visit to the family and discovered that the family was so poor that the student did not have clothes to wear to go to school. This home visit made the class superintendent initiate a money drive to raise money to buy clothes for the student. As a result, the student started to attend the school again."

9. "An 8th grader started to miss classes frequently after her father's death and some time later she dropped out of school altogether. The reason was that she had to look after her younger brother at home so that her mother could go to work to provide for the family."

10. "A group of students were absent from school several times in a row. When they returned to school, they were given no punishment."

11. "A teenage student living with his grandparents was often absent after his mother died and his father left for seasonal work abroad. According to one teacher, his absence had a negative influence on the other students in the class. Upon the teacher's recommendation, the student was expelled from that school. He went to another school but it was later closed down as part of the government's school optimization process. The student wanted to return to his old school but was turned down. In the end, he never finished school. He is now married but he is unemployed because he has no qualifications."

12. "A child in an elementary school was absent from school for about 20 days due to an illness. When the student returned to school, one teacher would give all the other students a self-study task in class for 10 minutes every day so that she could spend this time with the student to help him catch up with the rest of the class."

Reasons for Absenteeism in Rank-Order

As part of the qualitative investigation on student absenteeism, a small questionnaire was developed. In the 22 selected schools, principals, selected teachers, parents and students were asked to respond to this qualitative questionnaire. The table below (Table 16)[41] shows how those questioned were distributed across the selected schools.

41. This is taken from the report of local researchers.

Table 16: Distribution of Selected Schools and Participants in the Qualitative Study

	Number of schools	Number of principals	Number of teachers	Number of parents	Number of students
Yerevan	2	2	16	16	16
Aragatsotn	2	2	15	16	16
Ararat	2	2	16	16	16
Armavir	2	2	17	16	16
Gegharkunik	2	2	16	16	16
Lori	2	2	20	17	17
Kotayk	2	2	16	16	16
Shirak	2	2	15	16	16
Syunik	2	2	13	12	16
Vayots Dzor	2	2	16	16	16
Tavush	2	2	16	15	16
Total	**22**	**22**	**176**	**172**	**177**

The main objective of the questionnaire was to identify which reasons (explaining student absenteeism) were considered the most important by principals, teachers, parents, and students. In the questionnaire, 13 major reasons were provided and the participants were asked to rank them according to their perceived level of importance, highlighting the most important. The reasons provided in the questionnaire were based on previous interviews with principals and teachers, literature on student absenteeism, and the current Armenian educational context. They were:

- Students are sick (state of health);
- Parents do not allow students to go to school;
- Poor teaching;
- Inadequate school conditions and facilities (e.g. too cold in the winter);
- Students lack motivation to learn in school (lack of desire for education);
- Students need to work in farming;
- Students take private tutoring classes;
- Families are in economic hardship;
- Family events;
- Parents are dead;
- Students have personal problems (conflicts with teachers or peers);
- Parents are working overseas;
- Academic overload;

The response from the participating principals, teachers, parents and students highlights four main

reasons (from the 13 listed above) as the most important reasons for absenteeism in Armenian schools. In rank order they were: state of student's health; student's lack of motivation for learning; student's family's socio-economic status; and student taking private tutoring. Table 17 shows the percentage of participants who chose the most important reason for student absenteeism.

Table 17: Percentage of Participants Who Chose the Most Important Reason for Absenteeism

	Health Status	Lack of Motivation	Taking Private Tutoring	Socio-Economic Conditions	Other 9 reasons
School: Principals	54.5%	18.2%	9.1%	9.1%	9.1%
Teachers	71.0%	11.9%	4.6%	6.8%	5.7%
Family: Parents	75.0%	7.0%	4.7%	5.2%	8.1%
Students	79.1%	6.8%	4.5%	3.4%	6.2%

The participants' responses indicates that is some significant variation in how students and parents responded compared with principals and teachers—especially in what is considered the most important reason for student absenteeism. Nevertheless, the four predominant reasons are clearly identified. Undoubtedly, the reasons listed here are quite general, but in the context of local schools visited and discussions held, they were clearly understood by the participants.

VI. Observations about Data and Data-Use Capacity in Armenia

One important observation that emerges from this study is that the institutional approach to data system development and management seems to be non-systemic even though there is a large quantity of quantitative data on education available in Armenia. The data exists in schools, in provincial centers, and in the offices of MoES or other ministries. Some data is still in paper form, such as attendance records in schools, while some data is in electronic form but is located in various information centers, such as the EMIS and Nork centers and other various institutions and NGO offices (mostly *ad hoc* data). Some data is routinely collected and other data is gathered for a specific purpose. In short, many education "databases" exist but—based on interviews with local educators of schools, provinces, municipalities, and MoES, as well as reviews of some key data instruments and data variables, data publications, and data analysis reports—these various "databases" are insufficiently shared, integrated, streamlined, and analyzed. It was almost impossible to find credible and organized data in education documents addressing policy issues, evaluating system performance, or guiding policy development. This may imply that there is a weak institutional and technical capacity or demand for data use in policy development. Although a more comprehensive needs assessment may be required, along with an assessment of how effectively technical capacity uses data for policy development and management, it is possible to outline a few initial concerns that have implications for future investigations on school wastage and other policy issues.

1. *One-way Traffic of Data*

Schools in Armenia collect and submit much data throughout each academic year, but many are unaware of their own school's statistics; they are ignorant of how their school is doing in comparison with other schools within their own province. Schools do not receive relevant feedback from the higher levels of bureaucracy to which they submit the data. Moreover, existing data publications are only intended for national-level or provincial-level aggregates and even then the data is very limited in terms of policy content and relevance. According to many local accounts, data is largely for submission to government administration and is never expected to be fed back to where it originates from. Given this situation, principals, teachers, students, and parents are unlikely to understand the significance of the data they submit and therefore are unlikely to feel fully obligated to submit accurate data or validated data.

2. *Data-sharing Culture*

Between the levels of bureaucratic hierarchy (from schools to provincial administration to the MoES), obtaining or sharing data and information is normally a negotiation process. The flow of data and information, which is usually only available in hard copy format, is based on the good will of administrators rather than expected as part of their job description. For example, no office's calendar contains a data release date for sharing data with other offices and agencies. Electronic data sharing, disaggregated data sharing, multi-year data sharing (even internally within the education system) is not an institutional practice. It seems that there is no institutional policy on data sharing and procedures. This inefficient and ineffective way of "ad hoc data sharing" extremely limits the institutional use of data. The current lack of electronic data sharing and integration also suggests a weak demand for data use (i.e. the analytical use of multi-source data for relative analysis, multi-year data for system trend analysis, and multi-level data for national, provincial and local comparative analysis).

3. *Data-Collection-Only Tradition*

It is hoped that Armenia will move towards a tradition of data use. It is not uncommon that data on education is collected and kept by different functional offices of the education system. For example, in Armenia, comprehensive annual data on schools is collected and managed by the Project Implementation Unit (PIU) of MoES, detailed exam results are currently kept by the MoES and the provincial education departments[42], and each school keeps records (mostly in paper form) on students' and teachers' daily attendance. It is quite understandable that behind these databases lie different hardware and software technologies, from paper form (e.g. student attendance book in schools) to sophisticated custom-made computer programs (e.g. the school database in the PIU). However, it would be a terrible waste if these different databases were not used to their full potential—for policy use, system analysis, or program evaluation.

It is clear that Armenia has a strong tradition of collecting comprehensive data on education, on both a routine and *ad hoc* basis. The record keeping of student attendance in schools visited

42. It is planned that from 2007 the new Assessment and Testing Center will start to manage exam-related data.

and the amount of data variables that the EMIS data collection tool contains are particularly impressive. In fact, Armenia is one of the few countries that collect such comprehensive data from schools[43].

Nevertheless, equally unimpressive is the capacity for data use, or rather the lack of data use capacity. Except for a handful of descriptions on aggregated statistics in annual data productions or publications—at best tables and charts being accompanied by a few paragraphs of explanation—Armenia's extensive data on education seems to remain "untouched". Routine data analysis such as variable-to-variable relative analysis (using school or student as unit analysis) has not occurred[44]. Thus, a data-driven education policy brief (M&E brief or Indicator Brief) is not routinely produced in Armenia.

Among several analytical and statistical reports reviewed, particularly quantitative analyses carried out by local data analysts (although limited in number), the use of system analysis and policy relevant presentation is quite limited. Perhaps there is no education policy researcher or analyst or M&E specialist in MoES who is charged with the task of conducting analytical work in a policy relevant manner. In any case, the analytical capacity for data use, particularly for policy development and assessment, is noticeably weak compared with other countries that have similar political and educational experiences (e.g. Lithuania and Latvia). Given the amount of data that is available in the Armenian system, it was surprising that there were not more useful information products that could respond to growing policy inquiries about the country's educational development.

4. *Lack of Data Integration*

Data on education from various sources in Armenia are not normally integrated. Institutional arrangement of data integration and technical coordination in this regard appear to be quite weak. Although this deficiency may be caused by low demand for data analysis, technical design in data integration among all data offices and an accompanying commitment to data–sharing are surely the key. If the multiple databases on education that are currently available in Armenia can be shared and integrated, the new data product will be of enormous value to policy makers, researchers and analysts. Valuable information products for policy guidance and development can only be produced with such integrated data. For example, if we want to know whether a student's previous poor academic performance is a key causal factor in dropout or absence, we would have to integrate achievement data and school dropout data; or if we want to know whether teacher qualification or teacher training could be a key factor affecting student absenteeism, we would have to integrate data on teacher qualification and data on student absenteeism.

5. *Institutional (Dis)trust in Data*

During visits, it was common for an education official to say "I don't trust their data (i.e. another

43. In Armenia, the annual school census managed by EMIS office (Project Implementation Unit) includes a very extensive list of data fields (or variables). The instrument is more than 30 pages long. A similar data collection system exists in Lithuania, Latvia and Georgia but these countries have made great efforts to shorten the instrument in the past few years.

44. When I asked the PIU to share school-level data on student flow statistics for the past 3 years, they were extremely cooperative and supportive, but mentioned that no one had ever asked them to prepare electronic school-level data for further analysis. All requests were summary tables which only contain national and district level averages and percentages in hard copy format.

office's data)—we (i.e. our office) must collect our own data". This entailed repeated efforts and use of extra resources. It is not clear how justified this institutional distrust in data is, but a few data problems were observed during the study. Indeed, data inconsistency can truly jeopardize institutional and public trust in data. Of course, data can never perfectly reflect reality, but consistency in data collection, processing, reporting and presentation is critical in winning and maintaining institutional trust in data.

In various official publications in Armenia, data under the same headings for the same year sometimes varies. For example, there are two different statistics for students who left school because of lack of desire during the 2003-2004 academic year. In the publication entitled *SOCIAL SITUATION OF THE REPUBLIC OF ARMENIA for 2003* (by National Statistical Service of Armenia), the data on student dropout varies tremendously from the data found in *Education in Armenia 2004*[45]. In fact, the discrepancy between the two total dropout figures in these publications is more than 30%. There are other similar inconsistencies in various data publications and it is natural that such discrepancies lead to distrust in official data. The education authority of the Government must be extremely careful about this matter and do what it can to better coordinate all the relevant data.

There are also other problems that may lead to distrust in official data. For example, people seemed to talk about: 1) over-reporting of student enrollment in order to obtain more centralized funding; and 2) under-reporting of dropout or absentees for fear of being seen to be "not doing a good job". Schools have daily attendance/absence records for all students but their submitted aggregate data is often miscalculated or misrepresented. Some of these problems may be caused by technical design, some by poor training or lack of capacity, and others by human error. All these contribute to institutional distrust in data. Thus, flaws in data transmission and management and the lack of institutional capacity for handling data integration must systemically be dealt with.

6. *Data Analysis Capacity*

Although assessment of analytical capacity in education-related data analysis was not the purpose of this consultancy to Armenia and no formal assessment was made in this area, a lack of capacity, particularly capacity to conduct policy-relevant data analysis, was strikingly evident. The lack of such capacity needs to be addressed by relevant policies and action. For the next few years, resources should be considered that build this capacity.

Field observations, interviews with local educators and reviews of analytical reports indicate that the data analysis capacity for policy development is weak and inadequate in Armenia. From annual statistical publications to locally produced research and analysis reports, from talking with educators in schools and provincial centers to some officials in the MoES, from examining disaggregated school databases in SPSS to aggregated tables in Excel, there was a demonstrable lack of or weakness in the production of useful data and information for guiding or evaluating policies and decisions. Broadly speaking, even the better "information products" that are locally produced remain descriptive and non-systemic. Even when limited amounts of data were used or

45. Although the two publications have two different years on their covers, they both report data for the year 2003-2004.

quoted in some of these reports, they were not presented in a way that could be used for policy-related issues.

In summary, given the amount of data available in Armenia, it was surprising that there were not: more trained people who could analyze data for educational planning and evaluation; better information products that could guide national and local education policy development; and more transparency in management of the education system. A good presentation of Armenia's 'well mined' data has yet to be seen.

7. *National Policy on Permissible "Absent Hours"*

In Armenia, the Ministry of Education and Science has a clearly stated policy that students may be absent for up to 240 hours per academic year. In fact, this policy of 240 permissible hours was updated in 2003 (increased from 160 permissible hours). This may be the most "lenient" absenteeism policy in the world since it permits students miss the equivalent of 45 school days or a quarter of the academic year. If a student misses more than the permissible "hours", he or she simply needs to pass an exam to overcome this problem. In theory, a student could become permanently absent as long as he or she passes this exam, which is understood to indicate that he or she is academically able to cope with "lost learning time"[46]. By this standard, almost every student absentee in Armenia—even a student who is considered to be a 'chronic absentee'—is potentially a 'legitimate' absentee and need not worry about absence. Why is there such a "lenient" policy towards absenteeism in Armenia? Why did the policy become even more "lenient" in 2003? It is not known—so far no researchers or policy analysts could explain this policy.

Many participants in the study, including principals, teachers, and parents, disapproved of this lax policy. Many believe that the policy gives a green light to Armenia's absenteeism. Some schools showed their resistance to the policy by refraining from informing parents about the increased permissible hours since 2003. Some schools even call for permissible absent hours to be reduced to just 100 per academic year.

VII. Summary and Recommendations

School wastage is a complex topic because it includes inputs to the system, such as school investments, and outputs of the system, such as student participation and academic performance. This report has focused on student participation in school, and particularly student attendance as a key indicator of that, and how it is related to academic performance, as measured by subject grades. Many of the specific issues and measures discussed in this report do not stand alone; they are interconnected with each other and may even be related to other factors not analyzed here. However, it is hoped that these preliminary findings will be useful for shaping new education policies, increasing student participation in school, and enhancing academic performance. The study is an important step toward disentangling this complicated topic and contributes to the wider literature on student absenteeism and school wastage. There is an urgent need for Armenia's government to develop an effective M&E system and the related analytical capacity required to

46. It was said that academic bribery was somewhat common in this kind of "exam deal" since a student's pass/fail is at the discretion of the individual teacher.

continuously monitor and evaluate the performance and development of the education system, including student absenteeism and school wastage.

Based on the findings of this study, it is hoped that Armenia's policy-makers in the field of education will take into account the following recommendations. While it is recognized that policy-makers may have other information or evidence available to design and decide policies, it is firmly believed that these policy suggestions—based directly on the findings of this comprehensive study—are carefully considered and formulated and therefore should serve well for solving current problems and strengthening educational development.

1. MoES should aim to increase student participation in school at the national level. Armenia must ensure: 1) all school-age children are in school (i.e. legally reuired); and 2) all school-age children participate in academic activities (i.e. are in class). Given Armenia's current school and teacher capacity, there should be no logistical difficulty in all of the country's school-age children being enrolled in school for 5 hours of learning each day. The law on compulsory education must be enforced. In addition, it is important to campaign for an increased and re-emphasized national awareness of the importance of student participation in school. Anything less than full participation and attendance by all school-age children in Armenia will result in school wastage.

2. The current policy of 240 permissible absent hours per year should be changed. This is a key policy that could boost student attendance and reduce absence-related school wastage. It is recommended that permissible hours be reduced to 80 hours per school year. Some specific variations could be worked out by policy makers for certain parts of the country and communities that have special needs (e.g. weather factors, cultural sensitivity). But no school in Armenia should be allowed to have more than 120 permissible absent hours, regardless of its circumstances. If education policy is thus adjusted, Armenia would be very close to the international norm of OECD countries. Of course, this policy will not stop absenteeism completely, but it is surely a worthy and significant step toward better student participation and attendance in school and, therefore, to reducing school wastage.

3. MoES should also make the flow of students through Armenia's school system more effective. A policy of automatic promotion should be considered for lower grades (primary grades 1-4 in the new system). Research literature strongly indicates that repetition in school, particularly in lower grades, does great deal of harm to students' psychology, self-confidence, motivation, and academic learning. Repetition also leads to a greater likelihood of students being absent or dropping out. In reality, when students repeat, they do not receive the "extra" support needed but are instead looked down upon and ridiculed. Thus, automatic promotion should be mandatory for students in Armenia's lower year grades.

4. Schools in Armenia should have a 5-day week. MoE should focus on the quality of learning time during a 5-day week and ensure 180-190 days per academic year. Sports and other extra-curriculum activities can be organized to support school-community and neighborhood development. During the resulting two-day weekend, individual students may then find the "space" to take private classes and any other necessary economically motivated activities. It

is quite likely that a 5-day school week would reduce student absenteeism.

5. MoES should adopt the UNICEF-supported framework for child-friendly schools; all Armenian schools should become child-friendly schools. According to UNICEF, "the child-friendly school is an environment that: respects diversity and ensures equality of learning for all children, is effective for learning, is protective of children, is gender sensitive, and is involved with children, families and communities…" To achieve the goal of student participation and good performance in school, priority should be given to policies that will make schools become attractive, safe and comfortable places for children to learn and interact with others.

6. MoES should enhance its capacity to define, collect, monitor and evaluate indicators of student participation, attendance, and performance. Such capacity should include: 1) indicators that measure student participation by grade—intake rate, enrollment rate, dropout rate, absence/attendance ratio; 2) indicators that measure how effectively students progress through the system—promotion rate, repetition rate, completion rate, and survival rate; 3) indicators that measure student performance—nationally designed and graded standardized test scores, local test scores, academic grades, student pass rate, proportion of students receiving highest grade. The specifics of how this data should be defined, collected, analyzed and managed could be decided as a joint venture between an outside expert and local specialists. Computerization of the student and teacher registration process as well as data management and analysis (at both MoES and in schools) are critical components of overall capacity development.

7. MoES should inform all schools of the "current indicators" of student participation, absenteeism and school wastage as part of a school report card. This is an effective way of involving parents, teachers, communities and the general public in the solution of the problem. To facilitate this, a special school report card on absenteeism and school wastage may be needed. This school report card should contain vital statistical indicators of absenteeism as well as other school wastage indicators, but must be short and brief. The report card, which should be a single page and include an individual school's specific information, should be custom-made[47] and sent to each of Armenia's 1,472 public and private schools. This card not only details a particular school's data on student absenteeism and other school wastage indicators, but it also gives provincial and national averages. This allows every school in the country to know its "status" in comparison to its region's and nation's. Incentive programs could be developed both nationally and locally to encourage effective ways of preventing absenteeism, dropouts and school wastage.

8. MoES should develop a comprehensive and effective M&E system for education along with the analytical capacity to implement it. This is a very important step toward building a modern educational management system with a culture of evidence-based decisions at its core. This may be a longer term project (possibly 2-3 years), but is a must for MoES given the weaknesses of Armenia's current institutional capacity in the production and application of data and information that is relevant for policy making. This recommendation will not only reduce school wastage, but will also establish the institutional capacity required for analyzing

47. Each school has its unique statistical information indicating the current "status" of school wastage.

many other problems in the education system. A (results-based) M&E system is an aspect of organizational management that permits long-term, sustainable, and ongoing self-assessment and self-improvement for the achievement of educational goals. M&E enables us to "see" the current state of something and guides us toward the development of successful strategies. In other words, by helping us monitor and evaluate system performance via indicators, M&E provides the necessary information to develop new policies or adjust the old ones. Thus, without an effective M&E system, it is impossible to know how Armenia's education system is fairing or how it may be improved.

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