



Open Society Foundations-Armenia

Barev Scientific Educational NGO

**ASSESSMENT OF TEACHER PROFESSIONAL DEVELOPMENT AND
EDUCATIONAL CONTENT IN THE CONTEXT OF GENERAL EDUCATION
REFORMS IN ARMENIA**

Authors: Serob Khachatryan, Silva Petrosyan, Gayane Terzyan

**Barev Scientific Educational NGO
2013**

The content of this report may not coincide with the views of the Open Society Foundation. Views and opinions expressed in this analysis belong to Barev scientific-educational NGO and the latter is the only party responsible for the content of the document. The views expressed reflect those of the authors and are not endorsed by the Open Society Foundations-Armenia or its board, and consequently, do not reflect the positions or views of the Open Society Foundation-Armenia.

This report was made possible through the full financial support of Open Society Foundations-Armenia, under its National Education Program. (Full study name is Assessment of Teacher Professional Development and Content of Education in the Context of General Education Reforms in Armenia, number 18271).

Preface

This study was implemented by Barev scientific-educational NGO, with the financial support of Open Society Foundations-Armenia. The study was conducted in February to June of 2013, throughout 45 sample schools from six regions (*marzes*) of the Republic of Armenia (RA).

The study examines issues related to the professional training of teachers and the content of education, using quantitative and qualitative research methods. It identifies sub-categories relevant to each of these areas, presents the relevant legislative situation, and the perspectives of students, teachers, principals and experts.

The research team would like to acknowledge all students, teachers, principals and experts involved in the research for their invaluable insight and assessments.

We would like to extend our gratitude to the staff of the RA Ministry of Education and Science and the Education Department of Yerevan City for their support of the research.

We would like to thank the Open Society Foundations-Armenia for acknowledging the importance of this study's subject matter and for the effective cooperation offered throughout the research process.

Team leader: Serob Khachatryan

Research coordinator: Samson Mkhitarian

Education experts: Silva Petrosyan, Gayane Terzyan

Program assistant: Kristina Tanajyan

December 2013

Barev scientific-educational NGO is a non-governmental organization operating in Armenia with its spheres of interest extending to issues of general education, specifically teacher professional development, contemporary approaches to teaching, and innovative methods.

Contents

Preface.....	2
List of Abbreviations.....	4
PIU Project Implementation Unit.....	4
NIE National Institute of Education.....	4
GDP Gross Domestic Product.....	4
UNESCO United Nations Educational, Scientific and Cultural Organization.....	4
OECD Organization for Economic Development and Cooperation.....	4
ICT Information Communication Technologies.....	4
Executive Summary.....	4
Introduction.....	7
General Education Reforms in Armenia.....	7
Research Goal.....	8
Research Methodology and Sample.....	8
CHAPTER 1.GENERAL EDUCATION IN ARMENIA: SITUATION ANALYSIS.....	9
1.1 Legislative Framework Regulating Teacher Training/Professional Development and Content of Education.....	9
Legislative Framework Regulating Teacher Training.....	9
Legislative Framework Regulating Content of Education.....	10
1.2 Statistical Data on Armenia's General Education.....	10
1.3 Armenia's Indicators According to International Reports.....	12
Armenia's Students at International Knowledge Assessment Tests.....	12
Low Learning Indicators According to Official Data.....	13
1.4 Challenges of Armenia's General Education.....	14
CHAPTER 2.TEACHER PROFESSIONAL DEVELOPMENT.....	16
2.1 Armenia's Teachers.....	16
2.2 Teacher Recruitment.....	17
2.3 Teacher Work Load.....	18
2.4 Professional Development.....	18
2.5 Teacher Attestation.....	19
2.6 Qualification Ladder.....	22
2.7 School Based Culture of Professional Development.....	23
Chapter 3. CONTENT OF EDUCATION.....	24
3.1 The Standard as an Integral Component of the Education Content.....	25
3.2 Textbooks as a Component of the Content of Education.....	27
3.3 Developing and Selecting Textbooks.....	27
3.4 Textbook Content.....	29
3.5 Teacher Involvement in Developing the Content of Education.....	30
3.6 ICTs as an Element of the Content of Education.....	31
Conclusions and Recommendations.....	34
Bibliography.....	35

List of Abbreviations

PIU	Project Implementation Unit
NIE	National Institute of Education
GDP	Gross Domestic Product
UNESCO	United Nations Educational, Scientific and Cultural Organization
OECD	Organization for Economic Development and Cooperation
ICT	Information Communication Technologies
PIRLS	Progress in International Reading Literacy Study
PISA	Programme for International Student Assessment
TALIS	Teaching and Learning International Survey
TIMSS	Trends in International Mathematics Science Study

Executive Summary

Introduction

Reforms in teacher professional development and teacher education have been a crucial part of Armenia's general education reform. Upon the completion of the regulatory framework for general education, teachers from schools across Armenia participated in training courses, which introduced them to the national curriculum, subject standards, interactive and cooperative teaching methods, as well as new approaches to assessment. ICT trainings were also implemented. In 2010, following the passage of the procedure on attestation of teachers employed by Armenia's educational institutions, the system of teacher attestation was also introduced. All teachers are required to undergo retraining once every 5 years, based on which they undergo the attestation process.

Reforms were also implemented with regard to educational content. A system of standards regulating the content of education has been formulated, according to which required outcomes are being developed for each level of general education (elementary, middle and high) and each subject.

Research goals

This study aims to look into two key components of general education reforms in Armenia in the context of current outcomes of general education, i.e. teacher professional development (training) and the content of general education. Research was carried out by Barev NGO, with funding from Open Society Foundations-Armenia. The study was conducted in February to June of 2013, using a sample of 25 general schools located in six target regions (*marzes*) of the Republic of Armenia.

The study combines quantitative and qualitative methods. In-depth interviews and focus group discussions were the methods used for the qualitative research, while standardized interviews were used for the quantitative research. Regulatory documents, other studies and international publications relevant to the topic were also used in the research.

The study was conducted among 450 students from grades 9 and 12. These grades were selected because they are the final classes of middle and high school and the assumption that students from these grades are in a better position to assess their education comprehensively. 49 teachers and 27 principals employed by basic, secondary and high schools in Yerevan and the regions, along with four employees from regional administrations were also surveyed.

In-depth interviews were conducted among ten educational experts representing the state system, international organizations and NGOs, schools and universities. In each target regions as well as in Yerevan, there was a focus group for teachers, one for methodological experts, and one for principals. Each focus group consisted of 8-10 participants. In Yerevan, there was an additional focus group for parents and one for experts, each with 10 participants.

The following issues are discussed in this study: **the most recent indicators of Armenia's general education, the key challenges of general education, recruitment of teachers, teacher workload, professional development, elaboration of the content of teaching, textbook-related issues, and ICT as a component of the content of teaching.**

Key findings

1. Certain stipulations of the 2011-2015 State Program on Education Development adopted by the RA National assembly are not enacted. The state budget expenditure on education was meant to be increased by 5% by 2015. Forecasts of the Midterm Expenditure Program for 2014-2016 published by the RA Ministry of Finance do not foresee any positive progress in this regard. According to the estimates included in this Program, state budget expenditures on education will comprise 2.56% of GDP in 2014, 2.50% in 2015 and 2.53% in 2016.

According to the same Program, the results of the internationally recognized TIMSS knowledge test should be published. However, the official website of the Assessment and Testing Center provides no information on Armenia's results in this test or its analysis. It was anticipated that Armenia would also participate in PISA and PIRLS knowledge testing, but this issue has not been addressed to date.

2. Several publications consulted as part of this study provide evidence that Armenia's results in the rankings of different international and local reports have deteriorated. UNESCO's education index, published in its annual *Education for All* report, ranked Armenia 29th in 2007, 43rd in 2009 and 52nd in 2012. With regards to TIMSS, Armenia has received significantly lower scores in 2011 than in 2003 in almost all indicators. The outcomes of children in rural areas are considerably lower than those of children in urban areas. The outcomes of boys are considerably lower than those of girls and these differences become more pronounced in the higher grades. Armenian students' performance is poor in exercises that involve knowledge application and logical reasoning. This is especially alarming given that the education reforms of the last ten years specifically targeted the development of these skills.

Official data indicates that the outcomes of state examinations conducted in the 9th and 12th grades are unprecedentedly high. In 2012, 35,279 students out of 35,336 who took exams received a positive assessment, with only 57 students failing the exam. Meanwhile, the inspection checks conducted by the State Educational Inspection resulted in 13 out of 18 11th-graders failing the knowledge test, 4 students scoring 4 points and only one student scoring 5 points.

3. Teacher recruitment has become more transparent since vacancy announcements are published in newspapers and there is competition for these positions. However, there is no set policy aimed at recruiting and employing top graduates from the pedagogical universities. The written and oral testing system used for hiring teachers does not allow for an understanding of how applicants work with children or how they apply their knowledge.
4. Trainings remain the only opportunity for the professional development of teachers. It should be noted that the teacher training process has been liberalized and a number of organizations were involved in implementing teacher trainings. However, training sessions held in 2013 were exclusively implemented by the National Institute of Education and this is a significant setback. Several training programs for teachers were conducted on topics such as subject standards, new teaching methods, assessment, and ICT. Nevertheless, once trainings are completed, teachers do not receive proper support to effectively apply their newly acquired knowledge and skills in the classroom. In this regard, the views expressed by teachers differed greatly from those expressed by trainers and relevant officials. Teachers claim that the methods taught are oftentimes inapplicable, while trainers insist that everything is explained to teachers, yet they are unable to apply the new methods appropriately. Despite the number of trainings conducted, 37% of the teachers surveyed consider that they need training on developing their skills to effectively communicate with students.

5. Despite the teacher optimization program, in 2012-2013 the workload of 47% of teachers in Armenia was less than 0.75 academic hours as a share of a full load, resulting in state expenditure on training additional teachers.
6. Although the teacher attestation system has been introduced, it has not led to exposing teachers with poor performance or their eventual termination. In reality, the attestation can be considered more of a certification of teachers confirming their participation in the training, and proof of mastery of theoretical knowledge. It does not certify the teacher's ability to apply new methods in the classroom.
7. Respondents confirm that there is no valid evidence indicating the education system is moving toward a specific well-defined goal, and there are no priorities identified that would result in improving the overall system. The state standards, textbooks and assessment methods currently used within the general education system are not interrelated or integrated. According to the state standards of general education, Armenia has modern learning outcomes such as independent, critical/creative thinking, and cooperative work style. However, the material transferred to the learners is derived from the textbook, containing mostly academic content on the subject matter including factual, theoretical and fundamental knowledge. Meanwhile, knowledge acquisition is tested based on measurable knowledge rather than the mastery of critical knowledge.
8. Although topics have been mechanically reduced, subject curricula and textbooks are still overloaded. The reduction of content should not only be focused on the quantity of content, but a review of the overall approach, with an emphasis on knowledge application.

Recommendations

Based on the findings of this study the following recommendations are proposed:

1. Collect and analyze key general education indicators in Armenia to better understand which areas have improved and which have regressed.
2. Define the priority indicators for general education and direct efforts towards their improvement.
3. Be consistent in ensuring timely and effective enactment of provisions stipulated by legislative acts and regulations.
4. Since inequalities in the development of the education system are unacceptable, create a program for developing rural schools and special approaches to improve the outcomes of the children who have fallen behind.
5. Instead of testing and reviewing formal documentation for teacher hiring and promotion, emphasize practical skills as a priority (such as lesson planning and communication).
6. Identify and mobilize those teachers who succeeded in the classroom due to their participation in professional development programs and systematize the transfer of knowledge and experience to other teachers.
7. In addition to training courses, introduce school-based formats of professional development (such as observation visits, group analyses of classes, best practice sharing conferences).
8. With each promotion, increase the salary of teachers by 20%, instead of the current 10%.
9. Define the precise goals for the content of education and create linkages between subjects so that they are taught in a way to achieve these goals.
10. Harmonize standards, textbooks and the examination system.
11. Increase teacher capacity to develop educational content and to assess knowledge, since currently teachers are considered only as agents transferring knowledge.
12. Have special trainings for textbook authors to ensure textbooks are relevant not only in terms of academic requirements, but are also intended for modern students.
13. Overcome corruption risks involved in the hiring of teachers and the selection of textbooks.

Introduction

The efficiency of the reforms that are currently in progress in Armenia's educational system will largely determine the future development of the country. An additional factor in the significance and urgency of obtaining positive results from reforms is that fact that most of them (national curricula, state standards for general education, textbooks, teacher professional development, formation of high schools) were implemented predominantly from loan resources and are subject to repayment. Armenia's future will be seriously compromised if the educational reforms do not result in the formation of valuable human, capital capable of contributing towards the country's economic growth.

International experience provides evidence indicating that successful educational reforms can be achieved with the existence of a highly qualified corps of teachers and content relevant to today's demands that provides incentives for students to learn. Should the educational system lack the highly professional teachers and quality content, then society will fill the need for its educational requirements outside of the school system, while schools will become formal and inefficient institutions.

The first chapter of this study presents a number of key indicators and issues with regard to Armenia's general education. Chapters two and three discuss two factors that affect these indicators, i.e. teacher professional development and content of education.

General Education Reforms in Armenia

The reform process of the Armenian education system began in 1997, with the first phase of reforms focusing on restructuring education management and financing systems. Under these improvements, the per-student financing system was introduced, replacing the existing per-class system. A new school management system was established, according to which the school principal is elected by members of a management board. While democratic in form, this system is not fully operational even today, and is charged with corruption risks. The boards do not fulfill their tasks in carrying out school principal elections and are not actively involved in the management of schools. In 1997, the revolving textbook system was also introduced, allowing the provision of affordable textbooks to students on a rental basis. Textbooks are chosen in what is meant to be a competitive process, though this process is often compromised. Parallel to these reforms, a school improvement program was also launched, making it possible for school administrations to submit proposals and receive grants to improve their schools. This program, intended to boost school initiative and capacity, was not sustained either.

The Education Quality and Relevance Loan Program, implemented in 2003-2009, was particularly important for Armenia's general education, since it touched upon such essential areas as modernization of the content of education (national curriculum, standards, programs, assessment), professional development of teachers, and introduction of ICTs. It was during this period that the school entry age was lowered from 7 to 6.5, and a transition was made to a 12-year education system, with high schools becoming separate units. Several documents and educational resources were developed during this time, along with trainings.

This can be regarded as a large-scale program with an enormous element of transfer of knowledge. However, these efforts did not have a sizable impact on the working style of teachers, nor did they change attitudes of children towards learning or improve learning outcomes. Even today, there are opponents to this shift who claim that Armenia's school environment and system are not designed for children of a younger age. There are also arguments claiming that the 12-year education system did not help make the content load of educational programs more manageable and merely extended the length of general education (years in school). This is confirmed by the fact that in 2011-2012, the RA Ministry of Education and Science initiated another reduction of subject standards and programs.

The teacher optimization program was also launched during this time, aimed at curtailing the number of teachers working at schools in order to increase the teacher-student ratio and reduced the number of under-loaded teachers. However, the program did not serve its purpose since even today, several under-loaded teachers work in schools across Armenia. According to data collected in 2010 and 2012 in the "Social Snapshot and Poverty in

Armenia" reports of the RA National Statistical Service, the teacher-student ratio in 2005 was 11.3, and in 2012 it was 10.5.¹

In 2009-2014, the second Education Quality and Relevance Loan Program was implemented. Teacher trainings were resumed, and ICT and relevant support were introduced to high schools.

Research Goal

The goal of this study is to comprehensively review the two key components of general education reforms – teacher professional development (training), and the content of general education – in the context of recent outcomes and issues of general education.

The efficiency of educational systems is largely measured by the outcomes demonstrated by students. Subsequently, the quality of teachers and the quality of the material taught has an essential impact on the outcomes of learners. International experience indicates that the effectiveness of reforms of general education is largely determined by linkages among the teacher, the content taught and the students (the triangle).

Research Methodology and Sample

In March-April, quantitative and qualitative research instruments were developed for this study, along with a desk study of legislative documents and various reports. In May-June, the survey was conducted in Yerevan and in the regions of Shirak, Lori, Armavir, Kotayk, Gegharkunik. Yerevan was selected since it is the capital city; Shirak and Lori as the largest regions that are relatively far from Yerevan; Armavir and Kotayk were selected due to their proximity to Yerevan; and Gegharkunik was selected because it is known to be a region that maintains a traditional culture. A total of 25 schools were randomly selected to participate in the study. In Yerevan, one basic (elementary/primary or middle) and one high school were selected from each municipality, in addition to one large educational complex. In the five other regions, random assignment was used to select two rural schools, two urban schools, one of which is a basic school and the other, a high school.

Questions related to the content of education and teacher training/professional development were included on the questionnaires and were discussed during interviews and focus groups.

450 9th and 12th grade students were surveyed. These grades were selected because they are the final years of middle and high school, and the students are better positioned to provide comprehensive assessments of their educational experiences. A survey was also conducted among 49 teachers representing basic, secondary and high schools of Yerevan and the regions, as well as 27 principals and four employees of regional administrations. Two regional administration employees refused to participate in the survey on the grounds that they needed written instructions to do so.

In-depth interviews were conducted with 10 educational experts representing state authorities, international organizations, NGOs, universities and schools. Focus groups with teachers, methodological experts and principals (one within each group consisting of 8-10 participants) were conducted in Yerevan and all selected regions. Focus groups were also held in Yerevan for a group of parents and experts (each involving 10 participants).

¹ Social Snapshot and Poverty in Armenia report, 2012, Yerevan, page 102

CHAPTER 1. GENERAL EDUCATION IN ARMENIA: SITUATION ANALYSIS

1.1 Legislative Framework Regulating Teacher Training/Professional Development and Content of Education

Legislative Framework Regulating Teacher Training

Legislative modifications introduced in the past 2-3 years have, to some extent, clarified issues related to teacher status, professional development, attestation and qualification ladder.

The RA Law on General Education adopted by the National Assembly in 2009 defines a Teacher as an educational worker/professional, who

- ensures mastery/attainment of subject matter/curricula by learners through in-class instruction, and
- assumes direct responsibility for that process (*Article 3*).

The same Law stipulates teacher functions, rights and responsibilities.

The RA on General Education defines a mandatory education threshold for teachers, by which, starting in 2018 only individuals with pedagogical qualifications (bachelor and master degree, specialist diploma) or with higher education and a minimum of 5 years of teaching experience within the last 10 years can become teachers.

This implies that over 5,000 teachers (12,7%²) who currently teach at schools across Armenia and have either an incomplete higher education or middle professional (college) education will either be dismissed or should complete their education.

The Law on General Education entitles teachers to participate in the management of educational institutions, to make recommendations to standards, textbooks and curricula, to select teaching methods and tools.

An important legislative provision is included in the 2011-2015 Education Development Program, which stipulates the following: "favorable conditions will be created for identifying, promoting and developing progressive and creative educators, and engaging them actively in the reform process ". While the Program came into force three years ago, it is unclear as to what efforts were undertaken in this direction.

It is stated in the same Program that schools will be continuously supplied with quality specialists and that teacher hiring will become more transparent. With regard to transparency the change that has occurred is the requirement to announce the vacancy and hold a competition. However, a competitive process still does not ensure a flow of quality specialists to schools.

The official sample job description of pedagogical staff employed by general education institutions adopted by the RA Government defines the following 12 functions for teachers:³

- 1) plans and implements teaching and development of learners in compliance with state and subject standards;
- 2) ensures implementation of educational programs, attainment by learners of minimal requirements for knowledge, skills and competencies defined by subject standards by applying effective teaching methods and modern technologies;
- 3) identifies, observes, examines and assesses students' educational needs revealed through the educational process;
- 4) supports the formation of a values system in learners, instills patriotism, develops appropriate behavior and conduct;
- 5) develops independence, initiative and creativeness among learners by taking into account their individual competencies;
- 6) promotes development of self-governance among learners;
- 7) respects and protects the rights and freedoms of students, and their honor and dignity;
- 8) consistently improves his/her knowledge and skills related to professional activity and subject matter, involves in creative and research activities;
- 9) cooperates with parents of students or with their legal representatives on issues related to organizing their education and upbringing in family;

² Based on data of RA National Statistical Service, 2012-2013

³ See http://www.mskh.am/sites/default/files/user/5/files/atestavorman_karg.pdf

- 10) cooperates with partners in an effort to exchange experiences and to enhance professionalism and efficiency;
- 11) participates in the activities of the subject-based methodological units;
- 12) adheres to the requirements stipulated by the charter of the educational institution, internal legal acts and disciplinary rules.

The above list is a rather comprehensive compilation of a teacher's job description. However, it is unfathomable to expect a teacher to utilize a 45-minute class allotment to ensure attainment of minimum requirements by students, to identify, observe, examine and assess their educational needs, or develop independence, initiative and creativity.

The teacher attestation procedure adopted by the Armenian Government has been one of the critical reforms. It defines procedures for simplified and advanced attestation. The first one is mandatory for all teachers, by which every teacher is required to attend a training course based on which he/she then undergoes attestation. Attestation is performed by a territorial committee following submission of relevant documents indicating completion of training. Teachers who fail the attestation process are no longer able to work at schools. According to the procedure, teachers are free to choose the training provider. It should be noted, though, that teachers interviewed indicated that the trainings never provide them guidance on how to ensure attainment of minimal requirements by all students. Furthermore, teachers have no clear understanding on how to utilize classes in fostering independence, initiative and creativity among children. Teachers who undergo advanced attestation may receive qualification steps and respectively earn salary bonuses/increases.

Legislative Framework Regulating Content of Education

The content of education is enclosed into a compilation of regulatory documents and educational materials that answer the question of what should be taught. This becomes a critical question in our rapidly changing world since content that is irrelevant to today's requirements does not provide incentive for students to learn. Developing educational content was a new function for Armenia's educational system since this was always carried out centrally in Moscow during the Soviet era, while Armenia merely implemented the directives. Lacking experts and experience in this area, Armenia initiated the development of new educational content during the late 1990s by passing the RA Law on Education in 1999 and the State Education Development Program of 2001-2005.

The RA Law on Education stipulates that state policies in education are defined in the State Education Development Program. The first such program was adopted by the National Assembly and enforced in 2001-2005 with an intention to have a new program once this one had been implemented. In 2007 a program called Education 2015 was circulated. Supported by the U.S. Agency for International Development, the Program was an attempt to formulate the vision and the development program for Armenia's education for the period of 2007-2015. This initiative under the name Education 2015 was an important one since the formulation of a vision allowed outlining the priorities of Armenia's education system and direct efforts toward achieving those. Given Armenia's limited financial opportunities, the need for such prioritization was essential as it allowed selecting a number of priorities and focusing efforts on their implementation. However, lengthy discussions did not result in formulating a vision and the system remained without a state education development program for nearly 6 years (2006-2011), which was a breach of the requirement set by the RA Law on Education. However, in 2011 the drafted document was used to develop the Education Development State Program for 2011-2015. This program affirms that in order to improve the quality of textbook content, technical support will be provided to textbook author groups, but to date no efforts have been undertaken to this effect.

1.2 Statistical Data on Armenia's General Education

We start by presenting some basic data on Armenia's general education based on the information from the RA National Statistical Service's Social Situation in the Republic of Armenia 2012 report⁴. According to this report, during the 2012-2013 academic year, the number of public and non public schools functioning in Armenia was

⁴ Social Situation in the Republic of Armenia in 2012, Yerevan 2013, page 25

1,435 and the number of students attending these schools was 368,708, which is by 50,000 students less relative to the same indicator of 5 years ago. The decrease in the student number is even larger when taking into account the fact that 5 years ago, schools had children in 1-11 grades, while currently the 1-12 grade system is in place. The number of schools has also decreased by almost 40% in the past 5 years.

Main Indicators of General Education, 2012/2013 academic year

Number of schools, unit	Number of students, person		Gross student enrollment ratio, %			Number of students receiving completion certificates in 2012, person		Number of teachers, person	
			Total	Including by school level		Basic education	Secondary education		
	In first grade	Elementary		Basic	High				
1 435	368 708	35 740	89.2	95.2	94.8	74.1	37 934	34 946	40 830

There are some issues with regard to student enrollment indicator, one of the most important ones in education. This indicator exhibits some fluctuations in Armenia, the data for high schools being the most alarming. During the 2011-2012 academic year, gross enrollment in high school was 72.8%, with the respective indicator for the current year gradually increasing and reaching 74.1%, which is still considered low. According to the RA National Statistical Service's Social Snapshot and Poverty in Armenia report, gross enrollment in Armenia's elementary schools was 99% during the 2011-2012 academic year. However, the above table indicates that during the 2012-2013 academic year, this number dropped to 95.2%. The respective indicator for middle schools in 2011-2012 was 91.8%, and there was slight increase in 2012-2013 as the number reached 94.8%.

The educational system is inaccessible for those in poverty. Specifically, in accordance to the RA National Statistical Service's Social Snapshot and Poverty in Armenia 2012 report⁵, the number of children enrolled in elementary schools from non-poor households was only 2% higher when compared to children from poor households and 7 % higher compared to children from extremely poor households. In basic school, enrollment of children from non-poor households relative to children from extremely poor households is higher by 8%. Following the completion of mandatory 9-year education, a segment of children of respective age (especially those from poor families) remain outside the educational system. According to the results of the Integrated Survey of Living Standards of the Household, 8.1% of children in the 15-16 age range did not attend a single educational institution in 2011. Their prevailing majority (54.3%) noted school completion as a reason for this, 2.8% claimed they had completed their education, 6.1% no longer wanted to study and 1.5% did not attend school due to health issues. For **11.8% of the respondents, educational services are too costly, causing them to leave school.** The remaining ones cited different reasons for non attendance.

The adverse impact of poverty on educational indicators is apparent in the results of the TIMSS knowledge assessment. Math outcomes in the schools with a high number of children from poor families are on average 445 points, while the same indicator is 458 points for those schools which have a small number of poor students.

Issues related to education financing in Armenia also raise concerns since there is a backslide tendency, which will carry on in upcoming years as well.

State Budget Expenditures on General Education and Vocational Education Programs as a Share of GDP (%)

	2010թ.	2011թ.	2012թ.	2013թ.
Total education	2.81	2.79	2.56	2.37
Including				
General education	2.31	2.29	2.12	2.05
Vocational education	0.40	0.40	0.34	0.32

⁵ Social Snapshot and Poverty in Armenia 2012, Yerevan 2013, page 169

This table indicates that relative to 2010, Armenia's level of education financing for the current year is lower. According to the Education At Glance 2013 report, the GDP share of state expenditure on education in OECD countries is an average of 6.3%. Some countries spend more than 7%, while Armenia's indicator has dropped down to 2.37 from 2.81.

Furthermore, it is expected that in 2015 there will be a breach of the requirement stipulated by the 2011-2015 State Program of Education Development adopted by the National Assembly. This Program mandated increasing the state budget expenditures on education to 4% in 2015. However, the forecasts of the Midterm Expenditure Program for 2014-2016 published by the RA Ministry of Finance do not foresee any positive progress in this regard. According to the estimates included in this Program, state budget expenditures on education as a share of GDP will comprise 2.56% in 2014, 2.50% in 2015 and 2.53% respectively in 2016. Thus, the provisions of the Law passed by the National Assembly will not be enacted even in 2016 and the respective expenditure item will constitute 2.53% instead of the planned 4%. In addition, the GDP itself will be much lower than in 2010. Researchers (Hanushek and Woessmann, 2010)⁶ involved in analyzing the correlation between GDP and outcomes of PISA⁷, concluded that those countries that commit a bigger share of GDP to education demonstrate better results in PISA.

1.3 Armenia's Indicators According to International Reports

While over the past two decades Armenia has implemented educational reforms and continually emphasized the importance of education for overcoming poverty and creating a knowledge-based society, the country's indicators remain a concern. According to the 2011-2015 State Program of Education Development, the quality of education should have been improved and aligned with internationally accepted standards. However, the current indicators show a backward divergence from international criteria.

More specifically, the 2013 Human Capital Report⁸ published by the World Economic Forum ranks Armenia 73d among 122 countries, while by quality of its labor force Armenia is ranked even lower at 113. The quality of labor force includes components such as unemployment, youth unemployment, mechanisms for developing and promoting gifted people. Although it is generally perceived that the quality of the labor force is determined by the level of vocational education, however general education does have a critical impact on the quality of labor force.

Some more problematic data is contained in UNESCO's Education for All report, which publishes the annual index of education development by countries. This index contains indicators that were traditionally high in Armenia, including adult literacy, children enrollment in elementary school, children reaching grade 5, gender differences. However, recently Armenia shows a continuous decline in these indicators. More specifically, in the Education for All 2007 report, Armenia ranked 29th in the Education Development Index⁹. The respective indicator for 2009 and 2012 was 43 and 52. It should be noted that this indicator would have been significantly lower if not for the high level of adult literacy, which is attributed to the legacy of the Soviet education system. .

Armenia's Students at International Knowledge Assessment Tests

Since 2003 Armenia has participated in Trends in International Mathematics Science Study (TIMSS). According to the 2011-2015 State Program of Education Development, Armenia should have also participated in Progress in International Reading Literacy Study (PIIRLS) and Programme for International Student Assessment (PISA). However, so far Armenia has yet to be involved in these programs.

Below we present the TIMSS results, which, as required by the State Program of Education Development, should be published and analyzed. However, the official website of Assessment and Testing Center (www.atc.am) contains only the description of the program and information on participating schools. TIMSS is focused on math and natural sciences and is conducted among 4th and 8th graders (last time Armenia participated in TIMSS, 8th graders were replaced by 9th graders since school starts at an earlier age in Armenia). Armenia's

⁶ Eric A. Hanushek and Ludger Woessmann, How Much Do Educational Outcomes Matter in OECD Countries?, NBER, 2010

⁷ PISA is an international student assessment program implemented by OECD.

⁸ The Human Capital Report, World Economic Forum, 2013

⁹ See Education for All. Global Monitoring Report, 2007, 2009, 2012

schools participated in this study in 2003, 2007 and 2011. The 2011-2015 State Program of Education Development considers this study the most credible tool for assessing the quality of general education in Armenia¹⁰.

Armenia's results in 2007 were rather high, causing organizers of this study to doubt their credibility. This led to the annulment of the results, which undoubtedly negatively impacted Armenia's prestige. Thus, only the results of TIMMS 2003 and 2011 were recognized as valid with the latest one being most alarming for Armenia. While it should be logical to assume that the 2011 results should have been higher than those of 2003, in reality the average score in 2011 was 452 compared to 456 in 2003 for 4th graders. The results for 9th graders were 478 and 467 respectively.

Our students show rather low outcomes in natural sciences. The average score of 4th graders is 416, which ranks Armenia 44th among 50 countries, while Armenia ranks 38 based on the outcomes of 9-graders.

Academic achievements demonstrated by boys are also alarming. More specifically, during the 2012-2013 academic year, the girl-boy ratio was 1.20, which indicates that the share of girls in high schools is 20% higher, while it is almost the same in elementary and middle schools. In addition, the results of TIMSS 2011 indicate that Armenia is one of the exceptional countries where girls show better results in math than boys. Interestingly, if the difference is insignificant among 4th graders (454 and 451) respectively, the gap becomes rather marked among 9th graders, reaching 472 and 462 respectively. Similarly, girls tend to exhibit better results in natural sciences with 4th graders scoring 419 and 414 respectively, and 9th graders scoring 446 and 428.

This study assesses learners' knowledge, ability to apply it and to use logical reasoning. The results indicate that 4th graders have particularly poor logical reasoning skills in natural sciences, and 9th graders are weak in both application and logical reasoning. In the case of math, both 4th and 9th graders possess a stronger knowledge basis as opposed to their application and reasoning skills.

This indicator is problematic since the two skills in question are considered of primary importance in the modern world. In addition, application and reasoning were declared as the key components of the recent reforms in Armenia. More specifically, the state standard of general education sets as a requirement, among others, the enhancement of high levels of critical thinking, mathematical reasoning and overall outlook among students. In conclusion, we should reiterate that TIMSS results, that are considered the most credible measurement of the quality of Armenia's general education, have not been published and analyzed, which is a violation of the law. Armenia's indicators declined compared to 2003 and the country has regressed with respect to a number of requirements that are considered critical for current educational reforms, including knowledge application and reasoning skills.

Low Learning Indicators According to Official Data

Reviews and external assessments performed by the State Educational Inspection and the Assessment and Testing Center have also resulted in a number of problematic outcomes. Thus, during the 2012-2013 academic year, external assessments were conducted by the Assessment and Testing Center among 11th graders with general results being rather low¹¹. In a considerable number of schools, the majority of students had unsatisfactory grades (failed the tests). To illustrate, 11th graders of a high school who are majoring in humanities showed the following results in geometry: 13 students out of the 18 present in class failed, the grade of four students was 4 and only one student's grade was 5. This is convincing evidence to the fact that the students in that particular grade do not know this subject. Consequently, it is not clear whether the teaching of this subject is effective and to what extent.

¹⁰ 2011-2015 State Program on Education Development of the Republic of Armenia, page 9, www.parliament.am

¹¹ See www.atc.am

The results were similar during the inspections of the State Educational Inspection.¹² More specifically, the failing rate on the written test administered by the Inspection was significantly higher than during the inspections of the previous year. In some of the schools all students in a class failed the test.

Meanwhile, the situation is rather positive during final exams. Thus, in 2012, 35 279 student out of 35 336 taking the final exams received a positive grade.

Such imbalances seriously diminish the value of education and the attitude of students toward school. According to the data of the statistical department, 75% of over 1000 students that dropped out from school said that they did so because they did not have a willingness to learn.

Thus, despite the high outcomes demonstrated during final exams, the ongoing external inspections and assessments provide evidence that the actual level of students' knowledge is rather low, which raises doubts in regard to the credibility of school exam results and has corruption implications.

1.4 Challenges of Armenia's General Education

Since Armenia's independence a number of critical challenges have ensued from the processes taking place within the education system that represent a serious limitation to the development of education. The following key issues stand out among those:

Imbalances in design and implementation: Experts consider 20% of reform success is determined by their design, while implementation conditions 80 % of success. One must say that the reverse is true of Armenia, i.e. laws, regulations and programs are constantly developed and designed, but the quality of their implementation, adherence to timelines, efficiency and financing remain unsatisfactory. To illustrate, the 2001-2005 State Program on Education Development intended to introduce teacher attestation and teacher qualification ladder, which became operational only in 2011. The delay was due to the fact that the Law on General Education had only recently been adopted in 2009.

In recent years, several documents pertaining to the reforms were passed. However, their consistent implementation is far from satisfactory. As noted by one of the in-depth interviewees "to me this is not serious-working continuously on a document that never materializes in real life, never changes the school and never reaches the child behind the reform, i.e. the immediate and central beneficiary of the reforms".

Another illustration is the requirement of the Program on Education Development to publish and analyze the results of Armenian students in TIMSS, which is not done.

Lack of comprehensiveness in reforms: The success of educational reforms is greatly determined by ensuring the balanced modification of its different components since the changes in one component may not guarantee success if the other components remain unaffected. To illustrate, the introduction of interactive and cooperative methods required elimination of the 45-minute class times. However, it never happened resulting in either non-utilization of these methods or their limitation to showcase classes only. This is unacceptable since modern education cannot be effective without interactive methods. These methods also require the availability of mobile and adaptable furniture, while currently the schools have outdated and heavy desks that are not easily movable and children cannot participate in group work. 36.8% of interviewed principals noted that knowledge and skills acquired during trainings are not applied since the schools do not have adequate physical infrastructure and other conditions.

One more example is related to the inconsistency of the material taught during trainings and the requirements of inspections. The teachers interviewed noted that the requirement that trainers and inspectors have for a specific class are not always the same, which causes doubts among teachers as to which is the correct approach.

In addition, there are no clear-cut criteria to evaluate the quality of teacher's work, i.e. in what ways and how should teachers ensure good or excellent quality.

Inefficiency of the top down approach to the reforms: Reforms in Armenia have been predominantly initiated and implemented by the government entities with the top-down principle prevailing despite evidence provided by several studies indicating this approach as ineffective. Passi Sahlberg, the author of "Finnish Lessons"

¹² See www.armedu.am, State Educational Inspection

believes that Finland's success in education is largely determined by the freedom given to Finnish schools and teachers in decision making.¹³ According to educational expert Looney¹⁴ (2009), the top down model in education is unable to meet the requirements of modern schools. In the modern world, a principal or a teacher who are mere performers will be unable to educate the citizen of a democratic society.

Observations provide evidence that a number of teachers in Armenia's schools carry out interesting projects, use effective and innovative methods. However, since the top down reform orientation has been fostered in Armenia, the bottom up communication is almost non-existent. Consequently, education management authorities remain unaware about the initiatives taking place at schools. The education management culture in Armenia lacks the ability to identify and encourage successful experiences of individual professionals and turn them into a national policy spreading across the country. Consequently, strategy developments rely on the experiences of other countries that are imposed onto our system and are not always effective. Meanwhile, relying on local initiatives allows engaging the teachers that introduced those into the reform process and having them support the state during reform implementation. Such neglect is perilous since it provides no incentives to teachers who are passively waiting for official directives to follow the good examples and do not take initiative to explore other opportunities.

It is not by chance that educational experts Tyack and Cuban consider that reforms do not change the school environment¹⁵. They believe that if the school is not involved in the reform process it becomes an obstacle to their implementation.

Lack of cooperation among educational policy makers, teachers and society: One of the issues in this regard is the inability of educational policy makers to convince teachers and society that their programs are important. To illustrate, the transition to a 12-year school system is unacceptable for the majority of teachers and society in general. Thus, 16.4% of teachers interviewed for this study believe that the transition to the 12-year school system was one of the most negative reforms. This transition is also considered the second most negative development generally, the first being student indifference. Furthermore, the biggest segment of interviewed teachers (21.5%) proposed to return to a 10 year system as a next step to changes. Interestingly, research results (Hanushek and Woessmann, 2010)¹⁶ provide evidence that **length of education and starting age have no impact on improved education quality**. The essential factor in this regard is the quality of instruction delivered.

Rural-urban imbalances: Armenia's educational system will develop only under circumstances where high quality educational services are delivered everywhere, regardless of geographic location. However, there is factual evidence indicating imbalances in Armenia's education system with regard to rural and urban areas. This was made more conspicuous by the creation of the system of standalone high schools. Currently, such high schools operate in the cities, where affiliation to a specialized track allows students to acquire in-depth knowledge of those subjects that are included in the system of unified exams. Moreover, high schools are enhanced with computers, literature, and teacher trainings. In comparison, students in rural areas are at a disadvantage.

The presence of such imbalances is supported by 2011 TIMSS results. To illustrate, the average score of 4th graders from cities that have a population of over 100000 people is 464. It is respectively 455 for towns with population of 15000-100000, and 443 for settlements that have a population of up to 15000 people. The situation with 9th graders is not much different, with scores being 492, 475 and 451 respectively. The results from natural sciences also confirm that children from smaller settlements score lower compared to children from larger cities.¹⁷

¹³ Passi Sahlberg, *Finnish Lessons*, Teachers College Press, 2013

¹⁴ Looney, J. W. (2009), "Assessment and Innovation in education", *OECD Education Working Papers*, No. 24,

¹⁵ Tyack, D and Cuban L., *Tinkering Toward Utopia: A Century of Public School Reform* (Cambridge, MA: Harvard University Press, 1995)

¹⁶ Eric A. Hanushek and Ludger Woessmann, *How Much Do Educational Outcomes Matter in OECD Countries?*, NBER, 2010

¹⁷ For details see Michael O. Martin, Ina V.S. Mullis, Pierre Foy, and Gabrielle M. Stanco *TIMSS 2011 International Results in Science*

Findings and Recommendations on the Chapter

1. Perform a systemic collection and analyses of Armenia's general education outcomes/indicators to understand the areas in which Armenia moved forward and where there is decline.
2. Define priority outcomes/indicators of general education and direct efforts to improve those.
3. Be consistent in timely and effective enactment of the provisions stipulated by regulatory acts.
4. Imbalanced development of the system of education is unacceptable. To overcome inequalities, a special program should be put in place for developing rural schools and for improving the performance of underperforming children.

CHAPTER 2.TEACHER PROFESSIONAL DEVELOPMENT

Education quality can never be higher than the quality of teachers. In recent years research results have provided convincing evidence that teachers are key to success in education. According to education economist Hanushek¹⁸ the outcomes of those students whose teachers are above the average level are 50% higher compared to students whose teachers are below the average level. In addition, student outcomes are 50 % lower if the teacher is below average compared to average level teachers. To summarize, teachers who have a high level produce outcomes that are three times as high as the ones produced by teachers below average.

2.1 Armenia's Teachers

In this section we are summarizing the available data on Armenia's teacher cadre. During the 2012-2013 academic year, the number of teachers working at general education institutions was 40 830, of which women comprised 84.3%. This indicator has not changed much in recent years since relative to data from the 2009-2010 academic year, the number of male teachers increased by only 0.4%. The OECD data indicates that 82% of elementary school teachers are women, while in middle and high school their share is respectively 62% and 58%. According to the Teaching and Learning International Survey (TALIS, 2009), the share of female teachers in 23 participating countries is 69.3%. To summarize, the share of female teachers in Armenia's educational system is too high.

Number of Teachers at Armenia's General Education Schools Broken Down by Level of Professional Education

2012/2013 academic year, *person*

	Number of teachers		Including by level of education					
	total	of which female	High education		Non-complete high education		Middle professional	
			Total	of which female	total	of which female	total	of which female
Total RA	36 034	30 939	31 704	27 299	3962	3383	368	257

According to the above cited data of the National Statistical Service, during the 2012-2013 academic year, the number of teachers employed by Armenia's schools with a pedagogical education was 36034 (88.2%) compared to the 75.6% in 2009-2010 respectively. Such is explained by the fact that a significant number of teachers without a pedagogical education are currently enrolled in distant learning at different institutions of higher education. Over 4000 teachers still do not have a pedagogical education.

Generally, a tendency for teacher aging is also apparent. To illustrate, the data of the National Statistical Service indicates that during the 2012-2013 academic year, 40% of teachers were older than the age of 50.¹⁹ Another

¹⁸ Eric Hanushek, "The Economic Value of Higher Teacher Quality", *Economics of Education Review*, volume 30, Issue 3, June 2011, pp. 466-479

¹⁹ In OECD countries teachers over 50 comprise 35% of overall teacher cadre, while according to Teaching and Learning International Survey, they comprise 27% in 23 participating countries.

indicator of teacher aging is contained in TIMSS, according to which 73% of teachers of participating 4th graders had been teaching at the school for over 20 years. Only Russia matches Armenia in terms of this indicator. Instead, the number of teachers below the age of 30 has also increased in Armenia and comprised 13.8% in 2012-2013 compared to the 10% in 2009-2010²⁰. The increase in the number of teachers below 30 cannot be considered a positive factor given the opinion expressed both during focus groups and expert interviews about literacy level or knowledge of subject matter among certain younger teachers being much lower. In addition, the quality of pedagogical universities and outcomes of their graduates have not been satisfactory in recent decades.

2.2 Teacher Recruitment

There exist no transparent procedures for teacher hiring in Armenia. Only the management of the school and the marz (provincial) administration are aware of teacher vacancies at schools. This situation, understandably, is charged with corruption risks. Currently, it is a mandatory requirement to publish an announcement about a teacher vacancy in print media, which is a positive development. According to the law, the overall decision making on teacher hiring is the school's prerogative. The school principal establishes a hiring panel/committee that examines and confirms the compliance of the submitted documents and hires the candidate based on an oral and written test. The study of these oral and written tests indicated that they exclusively assess the applicant's theoretical knowledge on education legislation and content, which is not the optimal way in which a teacher is selected. The most important factor guaranteeing teacher success is the teacher's ability to establish positive relationships with students, a skill that is not assessed in any way during the current hiring system. The participants of the focus groups alongside with the experts note that it is not always that the most worthy and qualified applicants are selected and hired. While teacher recruitment is fully delegated to the schools, there were concerns expressed about the interference of marz (provincial) authorities in this process or principal bribing.

Box 1: When a competition is announced for a vacant teacher position, all applicants submitting their application want to see the principal, by all means. That's a must.

This corrupt culture is still very much enrooted in our people. Once the applications are submitted, the applicant wants to find out what the condition is. So what should I say? Should I say "take the exam and we will see whether you have knowledge or no". There are very few cases when we have specialists who can overcome that threshold. Unfortunately.

Unfortunately, our teacher market is still in a very bad shape. We have held several teacher competitions. Sorry to say, but teachers struggle to overcome that threshold, especially the normative acts/regulations. They also lack any knowledge of methods. Pedagogical universities should have traineeship programs, like the medical ones.

Expert

The testing system applied to teacher recruitment creates fertile grounds for corruption. A selection process based on mere testing allows concealing the real professional competencies of the applicant, which would be more challenging, if a live class were to be conducted.

Box 2: All this becomes possible because principals can never be independent for fear of losing their jobs. Once you lose your job, you lose everything. Almost like today's authorities, officials. To put it simply, the person is destroyed as a member of the society.

Expert

Experts (Hanushek, 2010, Barber and Murshed, 2007²¹) propose two effective policy approaches with regard to teacher cadre, i.e. dismissing teachers that do not ensure good results and tightening the requirements for the

²⁰ For the sake of comparison it should be noted that the average indicator for OECD countries in 2011 was 10%, while in 23 TALIS countries the number of teachers below 31 was over 15%.

²¹ How the world's best-performing schools come out on top, McKinsey, 2007

applicants for vacant teacher positions. None of the two is currently adhered to in Armenia. More specifically, no teacher has been dismissed in the result of attestation, while the policy of attracting best specialists to schools is not working.

2.3 Teacher Work Load

According to the data of the National Statistical Service, in recent years the number of under-loaded teachers has increased due to the decline in the number of students resulting from decreasing birth rates and increased job out-migration. During the 2007-2008 academic year, the number of students in Armenia's schools was 425891, while the number of teachers was 40790. The respective indicators for 2012-2013 were 361228 and 39566. As a matter of fact, the number of students declined by more than 60,000, while the number of teachers- by around 1000. This is an alarming trend since under the conditions of current inflation in Armenia, the under-loaded teacher that continues working at school, receives a significantly lower salary. According to the data of the National Statistical Service, 14.3% of teachers in the 2009-2010 academic year had a 0.25-0.50 load (out of one full-time load). In 2012-2013 this number increased significantly reaching 19%. That same year, the workload of over 47 % of Armenia's teachers was less than 0.75, while in Lori and Gegharquniq this indicator was above 50%.

There are countries where teachers have 10-15 hours of class time weekly, which is equal to the situation of under-loaded teachers in Armenia. However, in those countries teachers are obligated to spend a significant amount of time on observing their colleagues' classes, working with each other, conducting independent research work. However, since in our culture the bulk of a teacher's workload is class time, the low number of class time means less teacher involvement in school life and lack of motivation. While the Law on General Education encourages teacher cooperation, professional development, attendance of workshops and conferences, under-loaded teachers never commit time to such activities given the meager salaries they earn.

2.4 Professional Development

In Armenia teacher training is considered the main element of professional development. The National Institute of Education (NIE) functioning under the Ministry of Education is responsible for state-supported trainings. The NIE has branches in all marzes (provinces) of Armenia.

The Education Quality and Relevance Loan Program funded by the World Bank includes special components targeting teacher professional development. Under the first loan program, large scale teacher trainings (around 50000 teachers) were implemented in 2006-2009 in 52 school-centers and at NIE. In 2004-2008 additional training of trainers and training of 300 teachers on the use of cooperative teaching methods was implemented.

Teacher training was also included in the second loan program and trainings for high school teachers and trainings required for attestation were implemented under this program.

According to the data published by the RA National Statistical Service for the 2012-2013 academic year, only 27,949 teachers out of the existing 40,830 note that they have participated in any trainings²², of which 24 223 teachers were trained in the past 5 years. Thus, only 68% of teachers received training, which is a very low indicator. For the sake of comparison it should be noted that 88.5% of teachers in OECD countries underwent training in the past 18 months. Armenia's indicator is somewhat murky since according to the final report of the World Bank's Education Quality and Relevance Loan Program²³ approximately 55000 teachers were trained in Armenia back in 2006-2009. According to statistical data, over 76% of teachers have been working at school for 10 years and more, which clearly indicates a significant number of teachers have not attended mandatory trainings.

As noted above, 47% of Armenia's teachers work less than 0.75 class hours (out of one full time load). Keeping in mind that all teachers in Armenia should undergo training every 5 years, the wisdom of spending funds on training under-loaded teachers becomes questionable. In certain cases the low workload is determined by limited hours dedicated to a certain subject, however there are cases when one full time teacher load is divided between

²² Social Situation in Armenia in 2012, Yerevan 2013, page 58

²³ See <http://www.cfep.am/reports> The final report of World Bank's Education Quality and Relevance Loan Program

two teachers, which means the cost of their training is doubled. Today Armenia has 25 000 full time teacher positions, while there are around 40 000 teachers working at schools.

In recent years several teacher training programs have been implemented. However, they were focused on standards, teaching methods and assessment thereby neglecting important teacher qualities such as sparking interest toward learning among children. The findings of our study provide supporting evidence to this effect.

In response to the question "What do you think, in addition to mastery of the instructional material what additional knowledge, skills and values do teachers need in order to work with children?"- the largest number of teachers (37%) mentioned skills needed for communication with children. Moreover, 27.3% of the respondents considered student indifference, irresponsibility, decreasing interest toward learning as the most negative development in recent years. This opinion is supported by 17.6 of the interviewed principals, which was also the most popular response. It is obvious that indifference, irresponsibility, decreasing interest toward learning results in ineffective teacher-student communication, which, in turn, has an adverse impact on education quality. Noteworthy is a citation made by one of the students from her teacher: "Your discipline is so low that I will not use interactive methods to work with you despite the fact that we were recommended to use those methods during training".

According to PISA in Focus periodical (2013, 09), research findings indicate that effective communication in class is one of the unique factors that has an overwhelmingly positive impact on academic performance in all countries.

2.5 Teacher Attestation

The RA Law on General Education passed by the National Assembly in 2009 sets requirements for teacher attestation and teacher qualification ladder. This requirement was enacted in 2011 and since 2012 teachers in Armenia have been required (by a special procedure) to undergo attestation once every five years (20% of teachers annually).

Teacher training was liberalized in an effort to effectively implement this process. If in the past all trainings were conducted by NIE, the new procedure allowed all qualified organizations to conduct trainings starting in 2012. However, in 2013, the selected 13 organizations were never given the chance to deliver the trainings and which were exclusively conducted by NIE from state budget funds, while loan resources remained unallocated. It should be noted that teachers had to carry expenses related to transportation and food, which was a big obstacle, especially for teachers from regions. This was also a breach of the attestation procedure, which stipulated that teachers are entitled to selecting the training provider. However, in reality the schools were not allowed a choice in this matter.

Still, implementation of trainings through a number of organizations is charged with corruption risks. The providers that have leverage over schools are able to enroll more teachers in their program and attract more funds, while the schools are not always allowed freedom in selecting the training provider.

Experts raise concerns that teacher attestation is formal in nature and will not contribute to improved teacher quality.

Box 3: We had high hopes but in reality the attestation turned into a formal process where 90% of teachers will pass automatically and 10% will not pass due to their education level, since they do not have specialized higher education. If I am not mistaken, starting 2018 they will not be subject to attestation and will be left out, will become jobless. Only these people will be left out, while those that work badly, use very poor teaching methods, do not have any knowledge of the assessment approaches- these teacher are not challenged. They would not even read a few lines from fear of failing attestation.
Expert

The World Bank's second "Education Quality and Relevance" loan program has defined an 80 hour training module with three components as a prerequisite for attestation:

- Education legislation (8 hours)
- ICT (12 hours)

- Topics related to the subject matter, pedagogical, psychological and methods related topics (60 hours)

The first component includes the same topics for all teachers, i.e. right to education, children rights, teachers' professional and labor rights.

The second component mainly includes general ICT literacy and in some special cases also ICT integration into the teaching of a specific subject.

The topics of the third component are rather different since some modules emphasize the teaching of a specific subject, while others stress pedagogical and methods related issues.

We believe that training all teachers using the same program and the same number of hours is not effective given the different level of teachers' professional qualities and experience. A teacher that has worked at school for decades cannot receive the same training that a comparatively new teacher does. In addition, there are teachers who have outstanding knowledge of subject matter but are unable to communicate effectively with the students. The opposite is also true, and thus the professional needs of these two groups are quite different. Consequently, offering them different types of training would be more appropriate.

Through the trainings the training provider assesses the knowledge of the teacher and provides a certificate, which in reality is a document certifying **participation and the level of theoretical knowledge**. This is not a **document certifying the teacher's ability to work in class and use new methods**. A major issue here is that all teachers, regardless of their level of preparedness, should be trained within the same program. To illustrate, teachers that have sound computer skills and teachers with no skills should take the same training program, which is not effective. It is ineffective to offer the same hours of training and the same training program to teachers who possess high professional skills and those who have several professional deficiencies.

In addition, it is impossible to claim with confidence that the teacher is ready to work using the new methods and approaches without observing the application of theoretical knowledge in practice by the teachers.

However, the training providers currently have no obligations for such observations or continuous support to teachers though experts notice that many training providers are open and willing to help if teachers ask for such advice. Unfortunately, these cases are few and far between and, as a rule, it is very seldom that this type of relationship is maintained between the teachers and training providers once the training is over.

Box 4: One way or another teacher training contributes to teacher professional development since, in any case, teachers hear new things, interact among peers. By all means, they do have an impact. **However, there are no indicators assessing their efficiency.** We do not know about the teacher who was trained- what happened to her, was she different before the training. It is not only training efficiency that we are unable to assess, it is also further application-say the teacher returns to school- did she apply, to what extent, what is the outcome?

When asked why the knowledge and skills acquired through trainings were not applied, surveyed teachers noted the gap between the knowledge and skills taught and actual teaching realities. During focus groups, teachers claimed that often times the training material is not applicable in class. More specifically, it was noted that the material is presented during a 90 minute training session, yet teachers are expected to make use of it during a 45 minute class. The teachers noted they would very much like to see the trainers When When asked why the knowledge and skills acquired through trainings were not applied, surveyed teachers noted the gap between the knowledge and skills taught and actual teaching realities. During focus groups, teachers claimed that often times the training material is not applicable in class. More specifically, it was noted that the material is presented during a 90 minute training session, yet teachers are expected to make use of it during a 45 minute class. The teachers noted they would very much like to see the trainers working with children in their classes and showing how to work with children using the methods taught. Working with children in their classes and showing how to work with children using the methods taught. These claims by teachers are supported by research findings indicating that teachers are more in need for support as to how to apply knowledge and skills acquired, since it is much easier to learn than to apply. Meanwhile, the current system in Armenia does not foresee such support and

consequently the effective application of the material learnt at trainings is not possible. According to the research conducted by Darling-Hammond and others²⁴, professional development in the form of training has a very limited or minimal impact on changing the work style of teachers and improving student outcomes. It's worth noting that a significant segment (15.8%) of respondents considers lack of physical infrastructure and relevant materials as the reasons for not applying methods taught. To elaborate, all trainings encourage use of group work and cooperative learning, but small classrooms and existing school furniture do not allow implementing these approaches.

This study revealed a particular divergence between trainers and teachers. While the trainers insist they have taught teachers how to work effectively, the teachers consider it impossible to use those methods due to time limitation and mismatch of the textbook material with the methods to be used.

One more challenge is related to the quality of teachers. In Armenia trainings are oftentimes implemented with use of the cascading approach, i.e. experts train trainers, who, in turn, train teachers. Experts believe that in such cases the trainers do not always master the material and transfer it inaccurately, which leads to incorrect perceptions and application.

In the foreseeable future, trainings will continue to remain the only approach in teacher professional development with no alternative formats being applied. More specifically, the 2014-2016 Mid Term Expenditure Program stipulates that "**teacher professional development will continue through teacher training**". This means other forms of professional development will not be introduced and trainings will remain the principle format for professional development. However, there are several other ways in which teacher professional development is carried out in the world. TALIS²⁵ asked the participating teachers to list professional development programs in which they participated. The teachers provided the following answers:

1. Trainings
2. Conferences
3. Qualification programs
4. Observation visits to other schools
5. Participation in teacher networks
6. Individual or group research projects
7. Mentoring

This list exemplifies different ways in which teacher professional development is carried out throughout the world. Our study reveals that some of these new approaches are in fact being used in Armenia as well.

Box 5: For the trainings to serve their purpose there should be different systems. We speak about mentoring. It is something new and is a costly thing. It implies on-site observations after training and on-job support.

Abroad, once the teacher graduates from the University she does not immediately become a teacher. Rather she works with the mentor for a year. The mentor does not supervise, but helps to correct things that do not work. They work together, the mentor takes the new teacher to her class, they model the lesson together. **In short, this is work through which the theory turns into practice.**

Our level of teaching is still very low. If we speak with teachers they will honestly say the same. In our program the mentors have worked with teachers since 1998, for 15 years and it is clear that people continuously have things to take in. Our trainers are good, but if were to stop working with them for three years, the quality would decline. In short, **new things emerge in the world all the time and trainings are needed to capture those.** But we do not have this system, and everything remains on paper.

Expert

However, trainings remain the prevailing method of teacher professional development resulting in system stagnation since the training providers perform the same work repeatedly.

²⁴ Darling-Hammond, L., Chung Wei, R., Andree, A., & Richardson, N. (2009). Professional learning in the learning profession: A status report on teacher development in the United States and abroad. Oxford, OH: National Staff Development Council.

²⁵ Teaching and Learning International Survey (TALIS), 2009

2.6 Qualification Ladder

While teacher attestation is a mandatory process, teachers are expected to meet certain requirements when applying for qualification ladder steps. Teachers are entitled to apply biannually for these qualification steps through which salary bonuses become possible. Those teachers who have published articles, books, possess state awards and prizes, trainer's certificates, are actively involved in Armenian educational portal, have conducted a distant lesson, are highly skillful (as qualified by the school principal, which is rather subjective)-can apply for a qualification step increase. This approach is charged with corruption risks since, for example, if the principal defines the level of teacher skillfulness, then the teacher is dependent on the principal's favorable attitude. Four qualification steps have been established and for each one the teacher receives a salary bonus. For instance, the bonus offered for the first step is 10% of the salary, while for second, third and fourth steps the increase is respectively 20%, 30% and 50%. One of the expert interviewees noted that the startup bonus of 10% is very low and that the minimum should be 20% to motivate teachers and encourage them to qualify.

By the order of the RA Minister of Education and Science, qualification steps were granted in 2012 and 2013. According to the data posted on the Ministry website, 51 teachers qualified for step 1 in 2012 and respectively 47 teachers qualified in 2013. Given the fact that around 8000 teachers should undergo attestation annually, the number of teachers granted qualifications is very low, only 0.6%. Since qualification requires research and scientific work, such low figures provide evidence that the absolute majority of teachers do not engage in any activity other than mere teaching.

Taking into account the low number of qualified teachers, the order of the RA Minister of Education dated August 13, 2013 has alleviated the requirements for qualification ladder. If in the past teachers had to meet 6 requirements to qualify for step 1, currently teachers that meet 2 out of 7 requirements can be granted step 1 qualification. Respectively, those meeting four, six and seven requirements are granted second, third and fourth qualification steps.

Apparently, neither teacher recruitment nor attestation and qualification processes assess in any way the teacher's ability to teach a lesson or reveal other important professional qualities. As an analogy, this would be similar to leading athletes being defined as such based on test results, ability to write articles or hold degrees. Granting qualifications based on submission of documents is not the optimal way to encourage teachers.

The concern here is that teachers attend trainings not with the goal of working more efficiently, but rather to undergo attestation or apply for qualification step increases. Thus, for an overwhelming majority of teachers (those who simply want to pass attestation) training is a mere means of maintaining their jobs, while for a smaller group it is a means of getting qualified and earning higher salaries. This system is fully based on external incentives and provides no incentives for making teachers continuous learners. This approach forces the teachers to participate in trainings, while the effective systems encourage teachers to aspire using opportunities for professional development.

Box 6: How could a two-three-five day course delivered once a year be effective if it does not result in lifelong learning, in self-development? In short, everything should work in a way to turn the teacher into a lifelong learner, to break the inertia of formal education. A teacher should learn every day, every day.

In reality, trainings do some good: teachers getting together for a few days, interacting, sharing experiences is good in itself. But there is no sustainability.

We are still speaking about onetime events with no continuity.

Expert

Nevertheless, international and local NGOs have contributed significantly toward teacher trainings, since through their efforts several manuals and modules have been translated and developed in Armenia, along with a number of interesting programs being introduced. However, several challenges persist in this sphere. More specifically, the programs implemented by these organizations are not clearly coordinated. The qualification level of the trainers or the compliance of the programs offered with the requirements of the school remain unclear. Their role in helping improve teaching quality is also ambiguous. Teachers participating in focus group discussions noted that there are cases when the topics are redundant and repetitive and the methods taught are not applicable in a class setting.

2.7 School Based Culture of Professional Development

International experiences provide evidence that school-based cooperation among teachers is an impactful method of professional development. Under this approach teacher groups are formed that jointly develop lesson plans, conduct, observe and analyze lessons. In such cases teachers receive recommendations and comments from their peers and are given an opportunity to improve their work. Even in this regard, teachers in Armenia continue functioning as isolated workers. This is further complicated because of the fact that around 40% of schools in Armenia, according to the National Statistical Service, are located in rural areas and are the only educational institutions in the community. In most cases there is only one specialist teaching a particular subject. In 2012-2013 academic year, 414 of Armenia's schools had a student population of roughly 100 students, while another 521 schools had up to 300 students. However, international studies confirm that bigger schools are more conducive for teacher cooperation since they allow for forming specialized groups that support each other and share experiences.

The State Educational Inspectorate under the RA Ministry of Education and Science has been conducting studies in Armenia's schools in recent years. The findings of 2013 inspection studies published by the Inspection confirm that in the Ararat, Armavir, Aragatsotn and Vayots Dzor marzes of Armenia the share of teachers involved in activities to improve their pedagogical skills varies between 1-2%. This means that schools do not provide an environment conducive to innovation. This raises concerns especially in light of the efforts planned under the WB Further Improvement of Education Quality through Teacher Training and Professional Development Program. The latter emphasizes creation of a network of innovative schools and an association of teachers-innovators. In addition, the 2011-2015 State Program On Education Development declares the creation of an environment conducive to initiative and innovation as key strategic directions. Nevertheless, the experts interviewed emphasized repeatedly that there do not exist sufficient incentives for encouraging innovative teachers or those in search of improvement.

Capacity building of deputy school principals responsible for instructional activities could play an essential role in introducing a culture of school-based professional development. They can mobilize teachers, organize joint group discussions and class observations, provide support to new teachers and take on the very important role of ensuring continuous interactions with trainers.

Those teachers who have successfully adopted and applied in their classes the effective methods of teaching can also play an essential role in enhancing the culture of school-based professional development.

Rolling out the experience of such successful teachers will be very useful for those teachers who work ineffectively. The issue here is that many teachers find it difficult to transfer the material learnt to the class environment. Thus, once they see the in-class experience of their peers, the application of new methods will become much more feasible for them.

Findings and Recommendations on the Chapter

1. To emphasize practical skills (lesson planning, in class teaching, communication with children) of teachers as a primary requirement for teacher recruitment, attestation and qualification instead of tests and submission of documents.
2. Identify and mobilize those teachers who succeeded in the classroom due to their participation in professional development programs, and roll out their experience.
3. Conduct trainings focused on improving communication skills of teachers taking into consideration the characteristics of modern children.
4. In addition to training courses, introduce school-based formats of professional development (including embedding training results in the daily work of teachers, observation visits, group analyses of classes, experience exchange conferences).
5. Increase the minimum bonus threshold for a qualification step to 20% as opposed to the current 10%.

Chapter 3. CONTENT OF EDUCATION

2004 was a turning point with regard to reforms of content of education since it was back then that the National Curriculum of general education and state standards of secondary education were adopted within the framework of the Education Quality and Relevance Program. A large working group was set up that after several months of work and public discussions submitted these two key documents to the government for approval. The adoption of these documents prioritized democratization of education, values based teaching and transition to a standards-based teaching system as primary directions. This implies that the state defines its expectations of general education on three levels-elementary, middle and high. This system replicates the industrial model where the state defines the expected outcome and the educational institutions commit to ensure that outcome-receiving certain liberties on route to them. Based on general standards, subject standards for all subjects taught at school alongside with new programs were developed by specialist groups. In 2010 the RA government approved the new state standard, which unlike the previous one, is grounded on the general competencies approach- a rather popular one in general education. The uniqueness of this approach lies in its focus on interrelated and complementary teaching of knowledge, skills and values. This means that priority is given to interdisciplinary linkages and teaching of integrated knowledge instead of teaching narrow subject matter-based knowledge. Given that teaching programs in Armenia are overloaded, this approach implies their unloading and integration of subjects. Based on this standard, the subject standards were reviewed in 2012-2013. The new standards are less loaded, but there is still no notable movement toward integrated teaching, which is the underlying principle of competencies-based approach.

2015 is the deadline for achieving Millennium Development Goals (MDGs), one of its seven goals being related to education, i.e. ensuring general primary education. It is already foreseen that this goal will not be fulfilled since millions of children are still deprived of the opportunity to receive primary education. Works are in progress to develop the post-2015 agenda and inclusion of education content related issues on the agenda is a priority. More specifically, in light of post-2015 context, UNESCO's Statistical Institute and Center for Universal Education published a summary report in 2013 referring to seven aspects of education content, including:

1. Physical wellbeing to include nutrition and physical activity;
2. Social-emotional well being to include civic values, mental health
3. Culture and the arts to include cultural knowledge and arts
4. Literacy and communication to include writing, reading, speaking and listening
5. Learning approaches and cognition to include cooperation, critical thinking and problem solving
6. Numeracy and mathematics to include numeric actions, geometry, statistics
7. Science and technology to include science and research oriented thinking, natural sciences, numeric literacy.

We compare this list with the teaching areas defined by the National Curriculum and approved by the RA Government. The state standard defines the following nine areas:

1. Armenian language and literature
2. Foreign languages
3. Mathematics
4. ICT, computer literacy
5. Nature, natural sciences
6. Society, social sciences
7. Art
8. Technology
9. Physical education and safe lifestyle.

Despite some similarities, Armenia's version focuses on teaching sciences and subjects.

It should also be noted that the state standard for general education adopted in 2011 lists the following requirements for school graduates:

- effective team work ability
- skilled to make independent decisions, to plan actions
- initiative-taking

The problem, however, is that Armenia's schools mostly teach knowledge and encourage memorization and mechanical reproduction of material. The question in this regard is when and how will children learn to become initiative takers or independent decision makers.

The issue with the state standard of general education is that it attempts to maintain the traditional approach of in-depth teaching of sciences while also adding to that the new requirements presented to modern schools such as integration of healthy lifestyle, mitigation of disasters and risks, human rights, robotics and others. Armenia's education system reacted to the social demand of enriching the content of education by increasing the length of school years (transition from 10-year to 12-year schools) and adding new subjects (History of Armenian Church, Armenian Studies, the Surrounding World and I, and others) and topics (trafficking, healthy lifestyle). Thus, there is an attempt to combine inflated content with teaching of new skills. Meanwhile, international experience (Finland, Singapore) provides evidence that teaching less leads to increased learning, since learning requires time and time is in short supply when learning more. In addition, integrated teaching and project-based approach are more effective for teaching such skills as cooperation, decision making and others.

While the documents on education content set several requirements, the testing system and exam guides do not address these requirements in any way. To illustrate, critical thinking and creativity are considered important, but these skills are not included in assessments tasks.

One of the issues related to education content is that throughout the education reforms process, there lacked a clear rhetoric on mobilizing the education system around certain priorities. Several countries develop such slogans allowing both policy makers and teachers to understand the direction that the education system is headed towards. In Armenia's education system, however, teaching that is based on narrow subject matter remains the prevailing principle.

Box 7: I will say one thing-there is no consistency with regard to the content of education. I am looking at textbooks of other subjects and I observe that there is no consistent and unified work. I do not see that all subjects are headed toward the same goal.

Teacher participating in a focus group

Thus we see an imbalance inside the standard-textbook-exam chain. Armenia includes modern approaches (creativity, critical thinking) into the standard, while textbooks contain a huge volume of scientific information and knowledge, and the exams only assess rote memorization.

The division of the content into primary and secondary subjects at schools is another serious problem. Those subjects that are assessed through exams are given more attention than others. To illustrate, the focus group interview participants mentioned that often times teachers teach exam-based subjects during the classes which are not followed by exams. This is true in regard to Social Studies and History since both subjects are oftentimes taught by the same teacher and it is easy to substitute one for the other. Arts related classes are also considered of secondary importance since there are no exams administered. .

3.1 The Standard as an Integral Component of the Education Content

Today, one of the challenges of the content of education is the unprecedented increase in the volume of information, which raises questions as to what to teach, in what scope and depth, and where to focus. In some countries the content of education is defined centrally, while other countries prefer the decentralized approach. In the Czech Republic and the Netherlands, schools are given full freedom to decide the number of hours for each subject. In Australia, 58% of subjects and hours are defined by the school while the remaining 42% is a mandatory decision made by the state. In Russia the correlation is 20% and 80%. In Armenia, schools are permitted to select only 7% of subjects and hours for grades 2-11. All subjects and hours are set for grade 1 and in grade 12, schools have the freedom to select up to 20% of subjects.

In 2001 a decision was made to transition from a 10-year school education to an 11-year one. In 2004 the 12-year system was introduced based on the justification that Armenia's children will have the chance to continue their education abroad (as part of the Bologna framework). One other justification for this transition was related to the claim that the existing content cannot be effectively taught within 10 years. It was assumed that the load of the material taught in each grade should be reduced since the material that children learnt during 10 years in

the past would be taught during 12 years. However, the reforms did not meet this expectation. On the contrary, in certain cases the volume of the material for certain subjects in certain grades was made even heavier. As proof, in 2011 a new “unloading” process was initiated through which standards for basic and later for high school were reviewed with an objective of unloading them by at least 10-15%.

Still, the meaning of "unloading" is somewhat mechanical, while the real problem is not only reducing the number of hours or the volume of the material. The actual challenge is the creation of content that provides incentives for children to learn. The main point of contention here is agreeing on the qualities of a school graduate: should the graduate know, for example, all royal dynasties, all branches of law or chemical elements, or should he/she be able to locate that information if need arises. All experts interviewed consider the creation of the standards (both the general education and subject standards) a positive development toward the search of that "working" volume. Naturally, it was an initial attempt and as such could not have been perfect. Trainings were conducted for the authors of standards, but this was not sufficient for achieving common grounds among people involved in the standard development who had different life experiences and different initial level of predisposition for such work. Consequently, in the majority of subject standards the volume of content was unnecessarily increased since subject specialists considered it imperative to include several topics.

In Armenia subject standards were developed on three levels: (A-minimal, B-average and C-advanced) so as to differentiate the material taught and not require the same volume from all children. Some participants of focus group discussions noted that the intent of A, B, C levels of the standard is fully unclear: " In the past, student performance could be ranked at all three levels-A, B, C. Now there is this separation, one separate from the other and this is not very useful"- says a confused teacher. Such confusion has a number of reasons:

1. While the group in charge of developing the standards was trained, they did not receive the operational level of knowledge and skills required for developing good, "working" standards. In certain cases it is not clear which requirements are more complex-those for level A, B or C. In other words, the increase of complexity is not ensured from level to level.²⁶ Moreover, requirements for a higher level of skillfulness or mastery can be observed at Level A, while language implying lower or simpler skills and competencies is used for Level C. In reality, requirements for Level B should be added to Level A, and those for Level C should be added to A and B.

2. Teachers are not cognizant of the concept of standard based education, since many of them do not have an idea of the standard structure, the significance of each standard component, the logic behind the grid of requirements for learners and other aspects of the standard.

Box 8: An NIE marz representative participating in the focus group had the following to say: " am sorry to say this, but 98 % of teachers out of a hundred do not have an understanding as to what the standard is. They do not have an idea what it looks like, despite the fact that we tell them about its advantages millions of times during the training. As a rule they do not open the standard, if they do-then very rarely. Moreover, the entries into the class journal are made based on the textbook topics."

Understandably the teachers use those tools that they are skilled in and leave the standard aside.

3. The linkages between the three-tier requirements and 10-score grading system are not clear-cut as well. Some experts claim that Level A corresponds to lower grades, Level B-to average grades and Level C to high grades. To illustrate, a student in the humanities track graded 8-9 in math may have mastered minimal Level A requirements of the physics-math track. Otherwise, a graduate of an Armenian school may score 20 on an

²⁶ To illustrate, in the elementary school standard on Armenian Language and Literature under the section pertaining to student requirements on three levels we read: At Level A the elementary school graduate should be able " to prepare speeches, presentation on topics of interest to learner", while at Level C - "keep records of the information needed for a presentation and enrich it by knowledge from learner's own experiences or other sources". The question here is whether preparing a speech/presentation is a simpler skill than gathering information for the speech. On an intuitive level one may understand what the authors of the standard had in mind, but it is difficult for the teacher to differentiate the level of the learner based on such formulations. Another example: *The Armenian Studies standard requires that the learner should "have an idea* on Armenia's geographic location, area, nature, etc..." How may the teacher "measure" "having an idea"? Presumably, different language/terminology is needed, i.e. describe, identify, list, define, write, show and others, which imply actions to be performed by the learner to demonstrate to the teacher what he/she learnt. "Having an idea" is intangible and is not an appropriate action verb to be included in the standard. Such ambiguities are also contained in other action verbs, including "understand, believe, recognize" and others that should be avoided in formulations for the standard. Such ambiguities and confusions are contained in almost all subject standards making the use of that tool difficult.

English final exam and 16 in Armenian, which does not mean that she knows English better than Armenian, since a higher level of knowledge and skills in the native language is required.

One of the special features of standard based education is that formulations should be clear and assessable allowing teachers to measure to what extent the learner achieves those. In an article titled "Standard Based Education in Armenia" G.Melikyan and S. Galoyan write: "the "requirements" in subject standards lack appropriate accuracy and precision. If words like "realize, have an idea, emphasize" are fit for qualitative descriptions, they are of no use at all for pointing out to a certain specific level of learners' knowledge and skills. "The requirements" oftentimes do not satisfy the principle of transition from the simple to the complex and are not complementary to each other."²⁷

In his article "It's Impossible to Organize Effective Teaching Given the Existing Programs and Textbooks" A. Ananyan gives examples of standard based requirements to different subjects on minimum Level A and claims that those are complicated and create overloading in addition to being unattainable for the overwhelming majority of students."²⁸ He believes that even the track based solution in high schools does not address the issue, since there has been no real content unloading with regard to non-track subjects.²⁹

3.2 Textbooks as a Component of the Content of Education

While it has been 10 years since Armenia made a transition to standards based education, the teaching at schools remains grounded in the prevalence of the textbooks. Meanwhile, the essence of the standard based education is to give teachers the freedom to use various sources and materials outside the textbook.

Box 9: "Our educational system is in a desperate state with regard to linking knowledge to life, or to put it more correctly-making life requirements the main determinant. **The knowledge we give has no relationship to the child's life and experience, and as such remains in his head as dead capital.** On the other hand, all that is essentially needed is passed along as mere knowledge, and since teaching of knowledge is not enhanced by relevant practice, it becomes obsolete over time. Authors of certain textbooks have no internal *inclination to address developmental or educational issues that are key to the present. Their hidden, or even unrecognized stance is to give knowledge for the sake of knowledge, to ensure cognition for the sake of cognition. No one is concerned about the destruction the body of such dead knowledge causes to the learner.*"

S. Galoyan, *The General Education System of Finland, Pedagogy*, # 3, 2010, pages 50-51

3.3 Developing and Selecting Textbooks

The new state policy regulating textbook development and selection was introduced in 1997 when the textbook revolving fund was established. The book rental system allowed providing all students across Armenia with textbooks through a system in which books were rented at 25% of their cost, while textbooks for elementary school were free of charge.

Textbooks are selected by a competition panel, to which publishing houses submit the draft textbooks for making a selection. In the initial stages the textbooks were selected by one panel comprising of teachers, professors, methods experts, scientists. However, under this setup, the positions of teachers within the panel were not always taken into account by well-known scientists. This is the reason why two separate panels are currently established. Once the separate scores of the two panels are tallied, the textbook(s) that has passed the threshold wins and is sent to schools to be reviewed by teachers. The textbooks are also posted on the Internet. Based on the number of requests submitted by teachers, a decision is made as to the quantity of each textbook to be printed. The textbooks are printed once every 4-6 years.

The experts interviewed observe several deficiencies in the process of textbook selection. Some of them call for liberalizing the textbook market.

²⁷ G. Melikyan and S. Galoyan, "Pedagogy", issue 5, 2011, pages 5-12

²⁸ See for details "Pedagogy", issue 6, 2010, pages 5-7

²⁹ See the same

Box 10: I believe that in the initial phase, when the textbook cost mattered a lot to Armenia given the social circumstances, the intent of competitions for textbooks through the revolving fund was to get relatively affordable but good quality textbooks. Definitely, the two are incompatible in principle, since quality is gained only through a sizable investment. However, the issue existed and the cost was a factor to consider in the competition. Today too, we see the same regard for cost in several ways. First and foremost, textbooks are reprinted infrequently -every five years. This is to say, if there are certain occasional omissions, the student will come across them for five consecutive years, since the next reprinting will take place in five years. This is one factor. The second one is the instability and lack of guarantee that a good textbook, an acceptable textbook will be reprinted in five years time. The selection system is not perfect enough to be able to support textbooks that are more or less acceptable. Therefore, liberalization is needed and the competition, if necessary, should be managed by schools. To do this there should be a variety of different textbooks to choose from. The worst case that I recall among the 250 textbooks, is the arithmetic textbook for middle school. An outdated Russian textbook by 108-year-old author Nikolski, somehow surfaced and did not comply with our curriculum, our standards, our educational issues or national values. Instead, the arithmetic textbook developed in Armenia was left out. It's OK that one textbook is left out and another one selected, but the surprising thing is that the selected textbook was one that had been out of use in the country of its origin due to the fact that it was considered obsolete... So, if such things can happen in the system, they create mistrust and do not help bring forth progress. In my opinion, opportunities for reprinting textbooks should be increased, made more frequent and we should revisit the fee system to determine if it is futile.

Expert

Experts have conflicting views on certain issues. One of them had the following to say about the testing/expertise of the textbook: *"We send the tested textbook to different schools for teachers to review. They provide comments that are then shared with the authors. Generally, this mechanism works well."* Another expert considers the process ineffective since he notices a lack of opinions aimed at improving the textbooks.

Box 11: In compliance with the Minister's directive, 93 schools participated in the testing of textbooks that passed the competition. We have already received their feedback and I have personally analyzed them. I have summarized the analyses in an article, but I am not publishing it due to different reasons. Only 13 schools submitted such review comments indicating that teachers know how to write reviews, what providing comments and opinions means, how to make and justify recommendations, and point out to the inconsistencies between the textbook and the standard or the age of the students. All 13 of these schools happened to be rural schools.

Expert

One of the issues is the lack of coordinated efforts aimed at working with textbook authors. Those authors who are involved in standard and program development or in teacher trainings are better aware of content related changes. However, certain authors come from academic and scientific backgrounds and are not aware of reforms in general education. Thus, when writing textbooks they limit the work to a tailored summary of the scientific material. Consequently, it is important that special training is offered to those individuals and groups that submit requests for writing a textbook.

Some teachers and experts surveyed noted that the best textbooks are not always selected. There are cases when the successive textbooks prove to be poorer in quality compared to previous ones. In other cases the school selects a particular textbook yet receives a different one at the beginning of the academic year.

Box 12: Selection of textbooks is an important entitlement for schools, very much like the authority to manage finances or hire teachers...These basic authorities will lead to the development of schools. But they do not exist, or are only limited and this hampers school development.

3.4 Textbook Content

What should the textbooks be like? The majority of the experts interviewed consider that such close scrutiny of the textbooks results from the "holding textbooks as sacred" approach. All expectations are placed on the textbook since it continues to be perceived as the most important instructional tool, almost the only source of teaching. The overall instructional process relies almost exclusively on the textbook, while within the standards-based education, instruction should rely on a diverse set of educational resources and materials, of which the textbook is only one, even if the most fundamental. This issue has an economic dimension to it, i.e. how accessible are other materials and resources in the classroom; do all students have access to computers in and out of class? Since the situation is not very promising, societal requirements for textbooks become increasingly acute.

Within this study students also gave feedback on the textbooks with 58.9% of respondents noting that textbooks are the most important source of knowledge, while around 3.1% mentioned they acquire new knowledge from other sources since they do not consider textbooks have a key role to play. The latter is a positive thing and indicates that students do not limit themselves to reading the textbook and refer to other books as well, including fiction and popular science. Survey results also reveal that the share of those not considering textbooks as an important source of new knowledge is less relative to those who do not find textbooks important at all 0.4% and 3.1% respectively. However, these opinions are reflective of values and in reality it is hard to say whether students read other books. The share of the respondents that listed internet as an information source is 48.9%, which is less relative to the share of respondents who prefer textbooks.

TV is rated lower than internet and is considered an important source of new knowledge only by 12.7% of the respondents. However, around 63% consider it "definitely important" and 7.1% give it no importance at all. Generally the responses show that on a descending order of preference, students consider books, textbooks, internet and TV as an important source of information.

The teachers interviewed consider the diversity of practical tasks as one of the strengths of the new textbooks with 23.35% of respondents pointing out to this fact. This opinion is shared by the participants of expert interviews, part of which consider that one improvement in the textbooks is the inclusion of diversified tasks in terms of knowledge, skills and competencies.

Another strength noted by teachers /19.2%/, is the enriched content and language used which some experts feel is challenging for students. They claim that complicated language is one of the main deficiencies of the new textbooks.

And finally, the third strength that 11% of the respondents list is the compliance of the textbooks to the new subject standards and programs. The experts interviewed also confirmed that the majority of new textbooks comply with the standards since this is one of the most essential requirements of the competition. However, it is hard to say whether the quality of the textbooks improves or declines as a result, since the effectiveness of the standards is also questioned...

Only 9.6% of the respondents considered the comprehensiveness of topics and the relevance of textbooks to student age as a strength. Some of the experts interviewed agreed that the textbooks are relevant to student age, especially in the case of high school. However, our students lack the skills to work with the textbook and learn from it, which should also be taught by the school.

Other experts emphasized that the books are incompatible with the age differences of students. The case of the "Natural Sciences" textbook (integrating elements of geography, biology, chemistry and physics) used in middle school was given as an illustration claiming that the selection of certain topics and the terms used are not relevant for the specific age group. The damage done is twofold: firstly, it is difficult to learn complex physics or chemistry concepts in middle school and this creates frustration without increasing the productivity of the lesson. On the other hand, once the child has grown enough to be able to capture those phenomena or concepts, they are not included in the curriculum of the next grades since it is assumed that they were taught in grades six or seven... .. Ultimately the students do not understand the material in lower grades and they lack the foundation to build upon in the higher grades... The quantitative survey results on the question about the weaknesses of the textbooks may confirm the accuracy of this claim. More specifically, 30.6% of the teachers surveyed listed "complicated relating/narration of the material" as a weakness (without consideration for the abilities of an averages student)." Students also noted the complexity of the textbooks as a primary challenge. For 11.8% of the students surveyed the complexity of the textbooks is considered the second deficiency of the modern schools proceeded only by the 12_year school system. Analyzing the qualities of the textbooks that have followed one

another, 14.6% of teachers noted that the narrative is too complicated for the elementary grades, while 23.6% agrees that certain words used in the textbooks are incomprehensible for that specific age group and difficult for learning. These facts affirm the need for special training of specialists writing textbooks for elementary grades. Such trainings exist for native English speakers who work with foreigners. They conduct a special study of the vocabulary that should be used when communicating with foreigners, and also determine what should not be used so as communication and productivity of their work together are not at risk because of unnecessarily complex words. Such trainings can be conducted among the authors of textbooks intended for elementary and middle school so as they have an idea of the word stock and linguistic framework that will make for a textbook best perceived by children. The age psychologists and special educators will need to be involved in this process. The second deficiency noted in textbooks is the volume of the materials /12.5%/, which is one of the controversial points of the overall debate about textbooks. A simpler way of explaining things is through the use of numerous examples and sound explanations. Volume does not necessarily mean complexity. Since today's learners have a problem with reading, an increase in the number of pages may bring about negative emotions... .. Conversely, if the standard defines certain requirements, then the inappropriate reduction of volume may result in excess brevity, incompleteness and consequently complexity. Some observed instances of "unloading" allow assuming that Armenian society is all for reduced volume...The issue, however, is the so called "working/effective volume" rather than the merely quantitative reduction of the material ...

Regretfully, 6.9% of respondents noted inaccuracies about numbers and events, mistakes and omissions, inconsistencies as one of the textbook deficiencies. Such oversights in textbook creation should be brought down to the minimum...

The translated nature of the textbooks is also discussed with conflicting opinions expressed on the matter. On the one hand it is good that textbooks created in educational systems with more resources are being translated, localized and presented to Armenian users. Given the limited research and experimentation opportunities in Armenia, creating such well-designed textbooks would have been close to impossible in Armenia. On the other hand, it is considered a negative thing that these textbooks are created by and for the carriers of other cultures and mentalities. The fact that we use them without special adaptation causes extra challenges for Armenian children³⁰.

The narration/presentation style of the textbooks is another issue. Some experts feel textbooks should include exercises and practical assignments, while others believe that having only the text is sufficient since the well-trained teachers may use a multitude of methods to work with that text. Once the method is defined within the textbook, it somewhat limits the teacher's freedom and enforces the teacher to use that specific method.

Box 13: The textbooks are very poorly written, and do not target the learner. They imply the teacher's intervention and are targeted toward the teacher: "here you go, this is the content and you know how to transfer it to the learner". While the textbook title reads -for grade two, for grade three and should be targeted to the actual learner by encouraging independence, self-study, family-based relations...It should have been a great manual and should have followed that structure. I intentionally say a manual and not a textbook since it is unreasonable to limit instructional literature to one or two textbooks, especially given the availability of such media that may be used to create instructional modules, packages ... There is no sense in having one or even two textbooks to select from when media resources available make it possible for the learners and the teacher, the teacher and the parents to create the needed instructional material.

Expert

3.5 Teacher Involvement in Developing the Content of Education

International experience indicates that one way to guarantee success of educational reform is to actively involve teachers in content development activities. An interviewed expert stressed that teachers *are willing to be part of the standards development*. *They complain that the Ministry never incorporates their recommendations related*

³⁰ To illustrate, one of the math textbooks for grade 6 is translated from Russian and is written for the 6-graders of Russian schools who start school at 7. The approval of this textbook did not take into account that both the vocabulary used, the volume and the level of reasoning are not compatible with the needs of 6-grader within the 12 years school system.

to improving and unloading standards and programs or those related to textbooks. However, the problem is that teachers lack relevant skills and knowledge to make sound analysis and in turn formulate them into such recommendations so as they are accepted. In many instances you have decipher on your own what the recommendation was about. Teachers are unable to clearly formulate their ideas, but this is not their fault since they must to be taught to do so.

Twenty percent of principals interviewed for this study suggest incorporating teacher comments during textbook development. Another 18% suggests opinions of other specialists should also be taken into account. This implies that a significant segment of the principals think that textbook development and discussion is not participatory. The other facet of this issue is that many experts believe that teachers are given the opportunity to engage in the development, discussion and selection of the textbooks, but do not have relevant skills to do so since they have never received training that will help them develop the needed competencies.

3.6 ICTs as an Element of the Content of Education

Internet connectivity is available in 1358 schools out of Armenia's total of 1435, which is considerable progress relative to previous years. During the 2008-2009 academic year, the number of connected schools was 696. According to the Human Capital Report published by the World Economic Forum, Armenia ranks 68 in this indicator among 122 countries. However, many of the teachers participating in the focus groups complained about the internet speed. They also noted that they mostly use the internet for online registry of grades. Though the average number of computers per school in Armenia in 2012-2013 was 12.2, some teachers noted that the existing computers are not sufficient for grade registry, in class use and internet access. There are no visible differences between the number of computers in Yerevan and the marzes. More specifically, the average number of computers in Yerevan is 19.7, which is higher than the national average of 12.2. However, since the number of students in Yerevan is also higher, the computer-student ratio is 22.5, while the national average is 21.1. 1

According to the "Accessibility of School Education in Armenia"³¹ study, the most popular answer to the question "why the computer room is not used as frequently as needed" is limited time. However, 82 students or 24% of the respondents note that the room is often closed, while another 23.7% emphasize that they are not encouraged to use the room. Parents participating in the focus groups noted that the schools are concerned that children may tamper with the computers and the school will have to incur additional costs to fix those. However, accessibility of computer rooms or availability of computers is only part of the problem that's on the surface.

The assessment of the "One student one computer" program implemented in Peru and Thailand indicated that equipping schools with computers does not affect improved education quality if the technology is not fully integrated into the instruction process. Armenia faces serious issues in this respect since delivering instruction in sync with today's era of technology is not possible when a school with 10 to 30 classes contains one computer room. The curriculum for the 2013-2014 academic year requires that schools ensure that a minimum of one subject class is taught monthly in the computer room. While this requirement reflects the reality of schools, it is simply impossible to deliver technology-based instruction by using computers rooms once per month. The findings of the survey on ICT use in Armenian schools conclude, based on the interviews with teachers and principals, that ICT has not become an integral part of the instructional process.

Box 14: At training sessions, the elementary school teachers complained that they were being taught how to make presentations when they did not know how to use computers. Our job was not teaching them computer skills, it was rather teaching them how to use computers in instruction. Irrespective of this, a statement was made in our country about all teachers being skilful in the use of computers. In reality, almost 80% of teachers possess no skills and this results in such controversy.

Expert

According to a professional development needs assessment among Armenia's teachers and principals conducted by APSC in 2011, the overwhelming majority of teachers (69.2%) claimed to use computers in order to deliver material. This raises concerns since it becomes apparent that computers are also used to enhance the teacher-centered approach despite Armenia's recent emphasis on the student-centered approach.

³¹ Accessibility of School Education in Armenia, Yerevan, 2012

Our study findings are even more alarming since 15% of students surveyed said that computers are not used during classes. This is unacceptable given that the school curriculum includes Informatics as a subject taught starting in grade 6 and throughout the final grade, and computers should at least be used during this class.

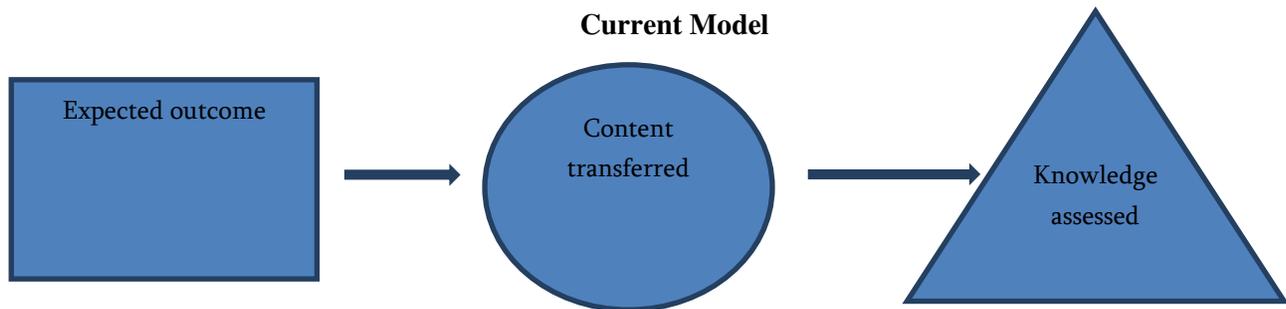
There is a similar concern in respect to laboratory tests. Around 25% of students surveyed said that they never perform any lab tests, which tells very negatively on the effectiveness of teaching natural sciences, chemistry, physics and biology.

To summarize, the content reforms undertaken in recent years have resulted in the development of general and subject standards, publication of textbooks, introduction of ICT and development of electronic resources, as well as a new testing system. The length of general education has been extended by two years. These three components of the content of education-standard-textbook-exam system- are not in sync and thus create challenges for both teachers and students. Teachers find it difficult to understand what the priorities are-creativity and critical thinking defined by the standard, the scientific material prevailing in the textbook or the rote memorization skill required during the exams.

The state standard on general education defines the outcomes expected of the teachers and in this respect the requirements are very up to date, i.e. independent thinking, critical and creative thinking, and cooperative work style. However, the instructional material transferred to students, mostly through the textbook, is of exclusively academic nature. It contains factual, theoretical and fundamental knowledge. As to the knowledge assessment methods (by semester final written assignments and exams), they are oriented toward a mere assessment of measurable knowledge. Thus, we assess not the attainment of essential knowledge, but the knowledge which can be measured. This type of knowledge generally does not require creative or critical thinking; it requires simple memorization and reproduction. Consequently, both teachers and students direct efforts to ensure rote memorization instead of focusing on key skills and knowledge defined in the state standard.

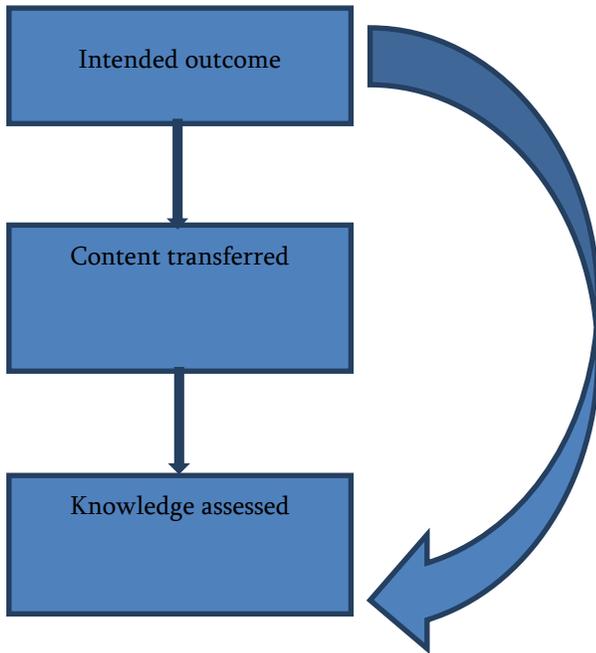
To summarize, one of the essential requirements of the education policy should be the harmonization of the links in the standard-curriculum-knowledge assessment chain, with the standard gaining precedence over the measurable knowledge. Taking into account the fact that our educational system uses exams and knowledge assessment interventions as leverage over students, the emphasis should be shifted to assessing not the measurable knowledge, but whatever is required and prioritized in the standard.

The graph presented below reflects the current situation, under which the expected outcome, the content transferred and the knowledge assessed are not closely interrelated.



Below we present the effective model of the content of education, under which the content transferred (the textbook) and the knowledge assessed should result from the expected outcome, i.e. the standard. Thus, the expected outcome should be the prevailing factor both in instruction and in assessment. In addition, the expected outcome and the knowledge assessed should have a small volume and be based on the standard, while the knowledge transferred may have a larger volume.

Effective Model



Findings and Conclusions on the Chapter

1. Define the precise objectives of educational content and interlink all subjects taught in a way aimed to achieve these objectives.
2. Harmonize the system of standards, textbooks and exams.
3. Enhance teacher skills to develop and assess the content of education. Currently teachers are viewed predominantly as transferees of knowledge, which is not sufficient.
4. Train textbook authors on how to adapt the textbooks to the needs of modern children instead of focusing on academic requirements only.

Conclusions and Recommendations

Two key areas within the system of education were the subject of this study. The **first** is professional development of teachers, which indisputably is the strongest variable in terms of education development. The study indicated that, in respect of teacher professional development, Armenia focuses on mandatory trainings (once every five years) and introduction of qualification ladder as an incentive mechanism. With due respect to these efforts, it should be noted that the training system is unable to ensure notable progress because of the lack of important components such as feedback mechanisms, class observations, and cooperation between teachers. Mere teaching of new methods and new content does not guarantee that they are transferred to the class environment and have a positive impact on the quality of education.

The **second** subject area of this study is the content of education, which is the main tool a teacher uses when working with students. In this respect, Armenia's system continues relying overwhelmingly on textbooks and their visibly scientific content. Students who have no inclination toward science are unable to learn the instructional material and thus lose their motivation to learn generally.

Based on the findings of this study the following recommendations are made.

1. Collect and analyze key general education indicators in Armenia to better understand in which sectors has the country registered both progress and regress.
2. Define the priority indicators for general education and direct efforts to improve those.
3. Since inequalities in the development of the education system are unacceptable there should be a program for developing rural schools and special approaches to improving the outcomes of the children who lag behind.
4. Instead of testing and reviewing formal documentation for teacher hiring and promotion, emphasize practical skills as a priority (such as lesson planning, communication with students).
5. Identify and mobilize those teachers who succeeded in the classroom due to their participation in professional development programs and roll out their experience.
6. To make the professional development of teachers more useful and targeted the training courses offered to different teachers should not be identical. The training should cover different subject areas in response to teacher needs and based on their level of professional expertise.
7. In addition to training courses, introduce school based formats of professional development (such as observation visits, group analyses of classes, best practice sharing conferences).
8. For each promotional step, salaries should be increased by 20% instead of the current 10%.
9. Define the precise goals for the content of education and interconnect all subjects taught in a way that aims at achieving those goals.
10. Harmonize the standards, the textbooks and the examination system.
11. Increase teacher capacity to develop educational content and to assess knowledge since currently teachers are considered merely as agents transferring knowledge, which is not sufficient.
12. Have special trainings for textbook authors to ensure textbooks are relevant not only in terms of academic requirements but are also intended for modern students.
13. Overcome corruption practices with regard to hiring of teachers and selection of textbooks.

Bibliography

1. A. Ananyan, "It's Impossible to Organize Effective Teaching Given the Existing Programs and Textbooks", *Pedagogy*, # 6, 2010
2. S. Galoyan, *The General Education System of Finland*, *Pedagogy*, # 3, 2010,
3. Accessibility of School Education in Armenia, Yerevan 2012
4. Education Quality and Relevance First Loan Program Report, <http://www.cfep.am/reports>
5. Republic of Armenia's 2011-2015 State Program On Development of Education,
6. Social Snapshot and Poverty in Armenia, 2012, Yerevan « 2013
7. Social Situation in the Republic of Armenia in 2012, Yerevan 2013
8. Social Situation in the Republic of Armenia in 2010, Yerevan 2011
9. G.Melikyan and S. Galoyan, "Standard Based Education in Armenia", *Pedagogy*, # 5, Yerevan 2011
10. Darling-Hammond, L., Chung Wei, R., Andree, A., & Richardson, N. (2009). Professional learning in the learning profession: A status report on teacher development in the United States and abroad. Oxford, OH: National Staff Development Council.
11. Education for All. Global Monitoring Report, 2007, 2009, 2012
12. How the world's best-performing schools come out on top, McKinsey, 2007
13. Hanushek, E. The Economic Value of Higher Teacher Quality", *Economics of Education Review*, volume 30, Issue 3, June 2011,
14. Hanushek, E and Woessmann, L, How Much Do Educational Outcomes Matter in OECD Countries?, NBER, 2010
15. Looney, J. W. (2009), "Assessment and Innovation in education", *OECD Education Working Papers*, No. 24
16. Michael O. Martin, Ina V.S. Mullis, Pierre Foy, and Gabrielle M. Stanco Timss 2011 International Results in Science
17. Sahlberg, P., *Finnish Lessons*, Teachers College Press, 2013
18. Teaching and Learning International Survey (TALIS), 2009
19. The Human Capital Report, World Economic Forum, 2013