

Armenia

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Introduction

Overview of Education System

Article 35 of the first Constitution of the Republic of Armenia, adopted in 1995, stipulates that every citizen has the right to education, education is free of charge in state secondary education institutions, and every citizen has the right to receive professional education free of charge on competitive basis in state professional education institutions.¹ The National Assembly of the Republic of Armenia adopted the Law on Education on April 14, 1999; this law has guided the subsequent development and reform of Armenia's education system.²

Use and Impact of TIMSS

In the former Soviet Union, assessments were traditional paper and pencil tests. Curricula and test items were more theoretical and less practical. Armenia's participation in TIMSS 2003 spurred a process of reform that began in 1999, and Armenia gradually introduced the practice of testing for national assessment. Armenia's education reform included reviewing curricula and textbooks in addition to introducing new methods of assessment.

During TIMSS 2007, TIMSS 2011, TIMSS 2015, and TIMSS 2019, Armenia already had some experience with the testing process. Participation in these TIMSS assessments led to the introduction of national assessments of different subjects. By using TIMSS methods and procedures, Armenia has implemented national assessments in Armenian language, literature, and history (known in Armenia as *HAAS*). Armenia has also developed and piloted national assessments of science subjects (physics, chemistry, biology, and geography; known as *BAAS*), and assessments of foreign languages (known as *OLAS*). TIMSS has had great impact on the process of education reform in Armenia, not only in terms of national assessments, but also on secondary school graduation and university entrance examinations.

Due to the impact of TIMSS on pedagogical reforms in Armenia, the testing process is used widely for all subjects and includes several methods (e.g., continual assessments, final and unified exams, and national and classroom assessments). The Ministry of Education and Science has based decisions regarding curricula, textbooks, methods of assessment, and continual assessment on TIMSS results.

The Mathematics Curriculum in Primary Grades

Exhibit 1 shows the mathematics curriculum for Grades 1 to 4 and the number of hours of instruction for each topic.³

Exhibit 1: The Mathematics Curriculum for Grades 1 to 4 and Associated Hours of Instruction

Grade	Topic	Hours
Grade 1	Preliminary mathematical ideas, objects, their sets	36
	The first 10	40
	Second 10	34
Grade 2	Two-digit numbers	35
	Three-digit numbers	20
	Expressions	13
	Multiplication and division	50
Grade 3	Multidigit numbers	22
	Arithmetic operations with multidigit numbers	64
	Data, data collection, and data processing	40
Grade 4	Operations with natural numbers	54
	Fractions	20
	Algebraic expressions	46

The Science Curriculum in Primary Grades

Exhibit 2 shows the science curriculum for Grades 2 to 4 and the number of hours of instruction for each topic.⁴

Exhibit 2: The Science Curriculum for Grades 2 to 4 and Associated Hours of Instruction

Grade	Topic	Hours
Grade 2	Who I am	2
	Me and My Family	3
	Me and my school	2
	My home, my courtyard, my street	2
	Town and village	1
	Nature around me	12
	Health and healthy life	7
Grade 3	Me and people around me	5
	How I organize my life	3
	Heavenly bodies	2
	Seasons	6
	Our health	10
	Safety around us	3

Grade	Topic	Hours
Grade 4	Nature	12
	Subjects, matter and particles	5
	Nature and human	9
	Our homeland	11
	Trips and geographical findings	11
	Me and society	7

Professional Development Requirements and Programs

Since 2005, extensive teacher education courses have been conducted with the aim of making teachers leaders in education reform. To ensure effective implementation of new curricula, syllabi, standards, and assessment tools, subject-based teacher education programs were introduced in 2005, following the sequence of syllabi development. The programs have been conducted using the training of trainers model (i.e., a core group of central trainers is trained by international experts, the central trainers in turn train local trainers, and the local trainers train teachers). School-based training is conducted by school centers selected from all *Marzes* (regions) of Armenia and the National Institute of Education and its 11 *Marz* branches. Approximately 4,000 teachers participated in professional development courses in various subjects, creating potential for the expansion of the teacher education programs.

In the information age, as knowledge is expanding at an ever-increasing rate, the main goal of education is to produce independent learners. In the past, education emphasized rote learning; now, it is more important to navigate information and information sources, acquire practical skills, and develop and apply competencies. This process requires students to actively participate in the learning process and develop their ability to organize the learning process independently. In the education process, students may achieve these goals using both interactive and cooperative learning methods. To support teachers in implementing new cooperative learning methods, three 3-day seminars on these methods are being offered in Armenia at present. Additionally, ongoing courses are held to improve teachers' computer literacy.

The Yerevan Brusov State University of Languages and Social Sciences established a master's degree program in professional pedagogy in 2019. The initiation of the program has been long awaited and is extremely important for the future of assessment in Armenia, as graduates of the program will be trained professionals fully qualified in assessment and testing.

Monitoring Student Progress in Mathematics and Science

The assessment and testing center organizes and implements:

- School graduation examinations at Grade 12
- Final examinations in Grades 4 and 9
- University entrance examinations

- External assessments in sampled schools twice yearly, to monitor student progress and to assist teachers in preparing classroom assessments using various testing methods
- National surveys
- International surveys (e.g., TIMSS)

Suggested Readings

Ministry of Education and Science Republic of Armenian. (n.d.). Retrieved from <http://www.edu.am>

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 - ² Republic of Armenia “Law on Education,” Article 4. (1999). Yerevan. Retrieved from http://www.translation-centre.am/pdf/Translat/HH_orenk/Education/HO_160_N_General_Edu_en.pdf
 - ³ The Ministry of Education and Science of the Republic of Armenia. (2004). *The national curriculum framework*. Yerevan: Author.
 - ⁴ The Ministry of Education and Science of the Republic of Armenia. (2004). *The national curriculum framework*. Yerevan: Author.