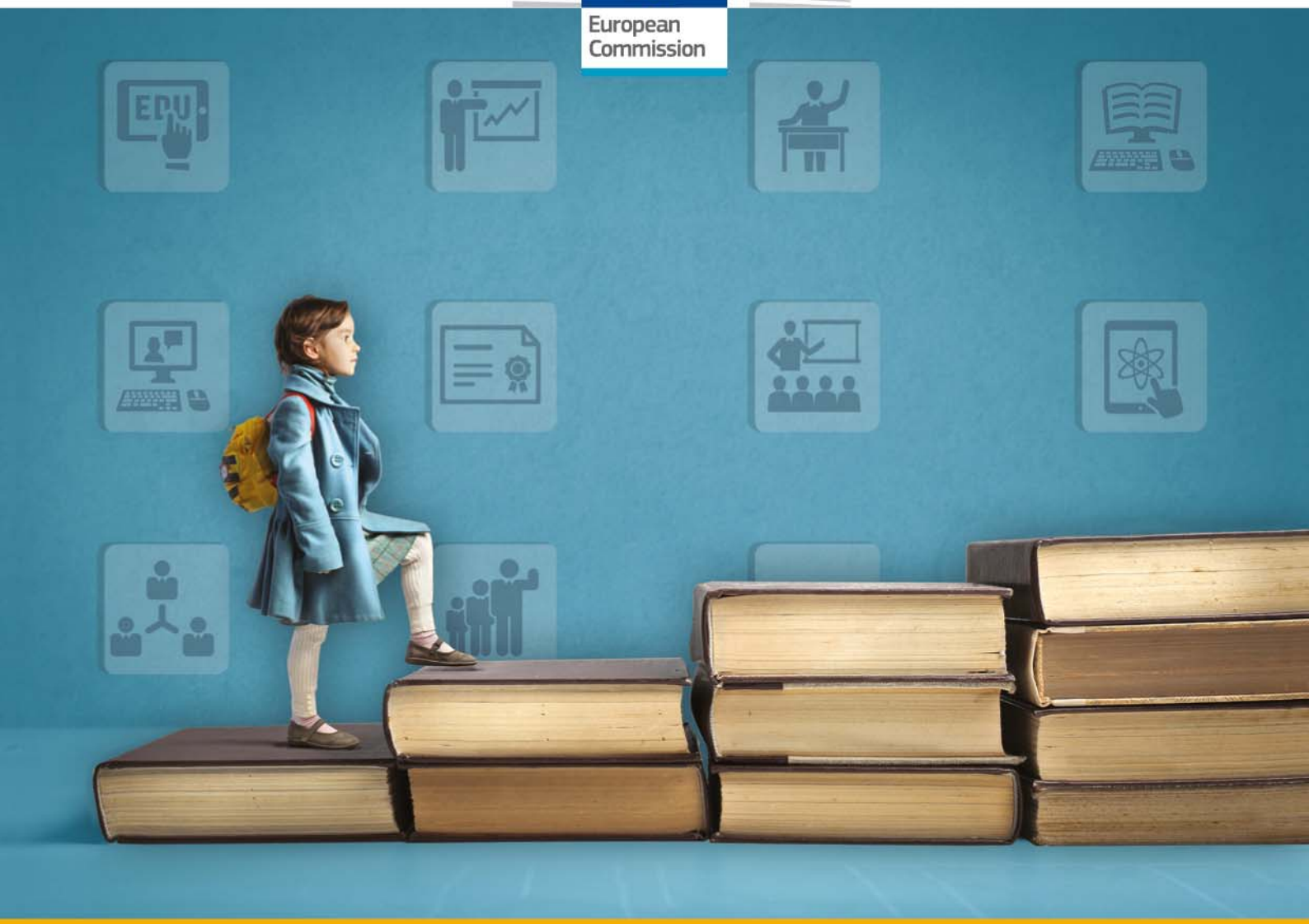
European Commission



Education and Training Monitor 2014

Bulgaria

Education and Training

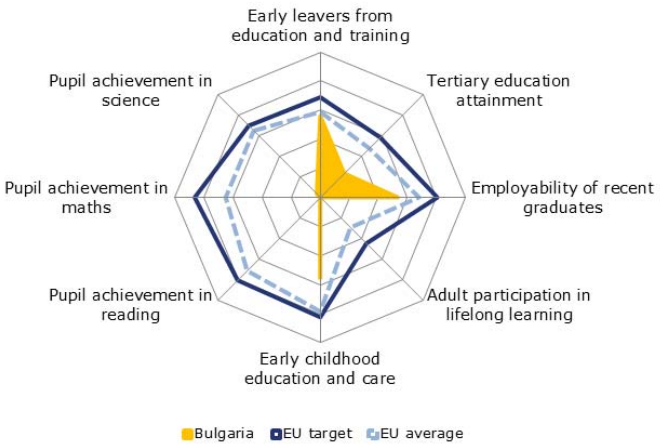
1. Key indicators and benchmarks

Europe 2020 headline target			Bulgaria 2010	Bulgaria 2013	Trend	EU28 average 2010	EU28 average 2013	Europe 2020 target / Benchmark
1. Early leavers from education and training (age 18-24)			13.9%	12.5%	▼	13.9%	12.0%	**EU target: 10%** National target: 11%
2. Tertiary educational attainment (age 30-34)			27.7%	29.4%	▲	33.6%	36.9%	**EU target: 40%** National target: 36%
ET 2020 Benchmarks								
3. Early childhood education and care (4-years-old until the starting age of compulsory education)			84.2% 09	87.1% 12	▲	92.1% 09	93.9% 12	**95%**
4. Basic skills Low achievers (15 year-olds; Level 1 or lower in PISA study)	Reading		41.0% 09	39.4% 12	▼	19.7% 09	17.8% 12	**15%**
	Mathematics		47.1% 09	43.8% 12	▼	22.3% 09	22.1% 12	**15%**
	Science		38.8% 09	36.9% 12	▼	17.8% 09	16.6% 12	**15%**
5. Learning mobility	Initial vocational training (IVET)	**a.** Students participating in Leonardo da Vinci programmes as a share of vocational students at ISCED 3	0.6%	0.8% 12	▲	0.6%	0.7% 12	
	Higher Education	**b.** Erasmus inbound students as % of student population in host country	-	0.3% 12	:	-	1.2% 12	
		c. Inbound international degree mobile students as % of student population in the host country	3.5%	3.9% 12	▲	6.0%	6.9% 12	
6. Employment rate of recent graduates (age 20-34) having left education 1-3 years before reference year	ISCED 3-6		68.7%	67.7%	▼	77.4%	75.5%	**82%**
	ISCED 3-4		58.4%	54.3%	▼	72.1%	69.5%	
	ISCED 5-6		82.7%	80.0%	▼	82.7%	80.9%	
7. Adult participation in lifelong learning (age 25-64)			1.2%	1.7%	▲	9.1%	10.5% b	**15%**
Other ET 2020 Indicators								
8. Investment in education and training	**a.** General government expenditure on education (% of GDP)		3.8%	3.5% 12	▼	5.5%	5.3% 12	
	b. Annual expenditure on public and private educational institutions per pupil/student in € PPS	ISCED 1-2	€ 2,202	€ 2,186 11	▼	€6,063.74 e	€6,297.16 11, e	
		ISCED 3-4	€ 2,161	€ 2,201 11	▲	€7,022.35 e	€6,650.87 11, e	
		ISCED 5-6	€ 3,784	€ 3,998 11	▲	€9,764.30 e	€9,474.80 11, e	
9. Transversal competences	Digital competences	**a.** Pupils in grade 4 (ISCED 1) using computers at school	: 07	: 11	:	60.7% 07	64.7% 11	
		b. Individuals aged 16-74 with high computer skills[1]	7.0% 09	12.0% 12	▲	25.0% 09	26.0% 12	
	Problem solving in technology rich environments	**c.** Low achievers (no or insuff. computer experience)[2]	:	: 12	:	:	16.9% 12, EU17	
		d. High achievers (PIAAC level 2 and above)	:	: 12	:	:	33.2% 12, EU13	
	Entrepreneurial competences	**e.** Individuals aged 18-64 who believe to have the required skills and knowledge to start a business	:	:	:	:	42.3% a, EU18	
	Foreign language skills	**f.** ISCED 2 students at proficiency level B1 or higher in first foreign language[3]	:	35.3% 11	:	:	43.5% 11, EU13	
		g. ISCED 2 students learning two or more foreign languages	21.2%	18.2% 12	▼	60.6%	63.0% 11	
10. Basic skills of adults	Literacy	Low achievers (< PIAAC proficiency level 2)	:	: 12	:	:	19.9% 12, EU17	
		High achievers (PIAAC proficiency level 3 and >)	:	: 12	:	:	43.3% 12, EU17	
	Numeracy	Low achievers (< PIAAC proficiency level 2)	:	: 12	:	:	23.6% 12, EU17	
		High achievers (PIAAC proficiency level 3 and >)	:	: 12	:	:	40.9% 12, EU17	
11. Skills for future labour market Projected change in employment 2010-2020 in %	High qualification		:	+4.7%	:	:	+12.4%	
	Medium qualification		:	+0.9%	:	:	+2.1%	
	Low qualification		:	-14.1%	:	:	-13.2%	
12. Teachers	**a.** Teachers aged >50 teaching in public and private at ISCED 2-3 - as % of total teachers teaching in ISCED 2-3 [4]		41.9%	44.3% 12	▲	:	: 12	
	b. Percentage of teachers who undertook some professional development activities in the previous 12 months		:	85.2%	:	:	84.6% EU19	
13. Vocational education and training	Percentage of vocational students at ISCED 3		52.2%	50.6% 12	▼	50.1%	50.4% 12	

Source: Cedefop: 11 / EAC: 5ab / European Survey on Language Competences (ESLC): 9f / Eurostat (COFOG): 8a / Eurostat (ISS): 9b / Eurostat (LFS): 1, 2, 6, 7 / Eurostat (UOE): 3, 5, 8b, 9g, 12a, 13 / Global Entrepreneurship Monitor: 9e / IEA TIMSS: 9a / OECD (PIAAC): 9cd, 10 / OECD (PISA): 4 / OECD (TALIS): 12b

Notes: 07 =2007, 08 =2008, 09 =2009, 10 =2010, 11 =2011, 12 =2012, a= unweighted average, b= break, e= estimate, p= provisional.
[1]= having carried out 5-6 specific computer related activities. Caution is advised when interpreting comparability over time, due to developments in the implementation of questions related to computer skills, [2]= results cover people who have no computer experience or failed the ICT test, [3]= average of skills tested in reading, listening, writing, [4]= in some Member States, ISCED 3 includes level 4 (CZ, EE, ES, IE, NL, FI, UK), while in others (IT, LU, NL) only public institutions figures are reported.

Figure: Position in relation to highest (outer ring) and lowest performers (centre)



Source: DG Education and Culture calculations, based on data from Eurostat (LFS 2013 and UOE 2012) and OECD (PISA 2012). *Note:* all scores are set between a maximum (the highest performers visualised by the outer ring) and a minimum (the lowest performers visualised by the centre of the chart).

2. Main challenges

Bulgaria's tertiary attainment has registered an increase of 2.5 percentage points in 2013 and there was an improvement in the performance in basic skills. However, the challenge of improving the overall quality and efficiency of the school education system continues. Bulgaria has still not adopted the School Education Act which will provide a framework for implementing the comprehensive reforms needed in the school system, including modernising curricula and improving teacher training.

The quality of vocational education and training in Bulgaria needs to be improved and better integrated into the general educational structures. This will allow for flexible pathways, reduce early school leaving and improve access to lifelong learning. Higher education faces continuing challenges in responding better to labour market needs. Low standards of quality certification contribute to this poor performance.

An ongoing challenge concerns access to education for disadvantaged children, in particular Roma children. The two-year obligatory pre-school period is a key step in the right direction and should be strictly implemented, together with measures to prevent early school leaving. Current initiatives to improve teacher training and strengthen integration in schools need to be scaled up.

The 2014 European Semester country-specific recommendation (CSR) on education and training, focused on:

(i) adopting the School Education Act and pursuing the reforms of vocational and higher education in order to increase the level and relevance of skills acquired at all levels, while fostering partnerships between educational institutions and business with a view to better aligning outcomes to labour market needs;

(ii) strengthening the quality of vocational education and training institutions and improving access to life-long learning;

(iii) step up efforts to improve access to quality inclusive pre-school and school education of disadvantaged children, in particular Roma, and implement strictly the rules linking the payment of child allowance to participation in education.

3. Improving resource efficiency and effectiveness

3.1 Investment in education

General government expenditure on education as a share of GDP in Bulgaria is the second-lowest in the EU and well below the EU average (3.6% compared to 5.3% in 2012). It has substantially decreased from 4.3% in 2009 and is expected to decrease by a further 0.2 percentage points by 2016.[1] Public expenditure per student is also

[1] Source: Convergence Programme (2013-2016) http://ec.europa.eu/europe2020/pdf/nd/cp2013_bulgaria_en.pdf

among the lowest in EU[2]. Investment in a number of areas, including early childhood care and education, basic skills, early leavers from education and training and higher education has decreased in comparison to the EU average.

3.2 A focus on teachers

The 2013 OECD Teaching and Learning International Survey (TALIS) [3] provided the following main findings for Bulgaria:

- A high proportion of teachers took part in a formal induction programme in their first regular job (69%) and only 27% of teachers work in schools whose school leaders report shortage of qualified staff (compared to an EU average of 36%). Appraisal and feedback are widespread: just 10% of teachers are never formally appraised (according to their school leaders) and only 2% have never received feedback in their current school (compared to 17% in the EU on average);

- The proportion of teachers who took part in some professional development activity in the last 12 months is in line with the EU average (85%) as is the proportion of teachers using ICT for students' projects or class work (34%). The perceived status of the profession is also similar to the EU average: 20% of teachers think their profession is valued in society (compared to 19% in the EU on average).

- In terms of self-assessment of effectiveness, the proportion of teachers who feel that they can motivate students who show low interest in school work is slightly below the EU average (68% compared to 71%).

In May 2014 the National Strategy for Development of the Pedagogical Staff (2014-20) was adopted and aims to:

(i) create a strategic framework of national politics on education, training and career development of pedagogical staff;

(ii) set up a model for a comprehensive approach and policies to improve educational quality in Bulgaria;

(iii) create conditions to increase teachers' authority and improve their social status.

The strategy aims at improving the quality of education by: (i) construction of a system for continuing education and training for teaching staff; (ii) actualisation of the curricula of the universities which train students for professional qualification " teacher"; (iii) providing financial incentives to motivate, attract and retain young teachers; (iv) introducing unified control system for preparation, system for quality control of labour. A set of measures to upgrade the mechanisms for evaluation and self-assessment of the teachers' work is also foreseen.[4]

4. Increasing employability

4.1 Work-based learning, apprenticeships and adult learning

Participation of upper secondary students in vocational education and training (VET) is slightly above the EU average (58.5% compared to 55.7% in 2012). Bulgaria has one of the highest proportions of young people who are not in employment, education nor training (21.5% in 2012). The employment rate of recent upper secondary graduates[5] is well below the EU average. Adult' participation in lifelong learning is the lowest in the EU, with a significant gap compared to the EU average (1.7% compared to 10.5% in 2013).

Amendments to the VET legislation, applicable as of the 2014-15 school year, have been completed. They aim to:

(i) ensure the quality of vocational education and training;

(ii) validate non-formal and informal learning and credit transfer and accumulation in the VET system; and

(iii) adapt VET curricula to labour market needs, involving the business community.

2 Source: EUROSTAT *Annual expenditure on public and private educational institutions per pupil/student*
3 http://www.oecd.org/edu/school/talis.htm.
4 Source: The National Strategy for Development of Pedagogical Staff, http://www.minedu.government.bg/?go=page&pageId=74&subpageId=143
5 People aged 20-34 who left education between one and three years before the reference year.

However, the main challenge is to fully integrate VET in the general education structure so as to allow for flexible pathways between the educational subsectors.

Draft amendments to the Labour Code have been proposed to enable employers to offer internship contracts for graduates aged up to 29 who have completed secondary or tertiary education. The amendments would allow employers to conclude contracts with young people aged up to 29 who have completed secondary or higher education but do not have professional experience in the acquired profession or field.

In the area of continuing learning, an integrated lifelong learning strategy for 2014-2020 has been adopted with a target of increasing adult participation in lifelong learning programmes to 7% by 2020. The strategy aims to create a network of regional and municipal centres to promote continuing learning and to work with business partners to identify and increase the availability of traineeship and apprenticeship schemes, in particular in emerging business sectors. Partnership with businesses is particularly useful in responding to the immediate and urgent demands of the labour market for specialists who hold a lower level professional qualification.

The Bulgarian Youth Guarantee plan, presented in December 2013, outlines new measures including apprenticeships and dual training. The biggest education and training challenge to implementing the Youth Guarantee in Bulgaria is the need to reduce the disparity between higher education and labour market needs by accelerating cooperation with the private sector to raise the overall quality of education, apprenticeships and traineeships. Successful implementation of the plan will require raising standards for individual researchers and teachers.

For the period 2014-2020, investment in education and training will be supported by the European Structural and Investment Funds (ESIF), through a new Operational Programme called "Science and education for intelligent growth". The Programme will provide for financing of actions in a number of education and training areas and will be complemented by other Operational Programmes, which will also support education and training, notably through investment in infrastructure.

4.2 Modernising and internationalising higher education

Bulgaria's tertiary education attainment is below the EU average (29.4% compared to 36.9% in 2013). However it has seen an increase of 2.5 percentage points in 2013, a step towards closing the gap with the 2020 national target of 36%.[6] Higher education presents an advantage in Bulgaria compared to other qualification levels and the employment rate of young university graduates[7] is very close to the EU average (80% compared to 80.7% in 2013)[8]. However higher education does not meet the labour market needs, as only 30% of university graduates find jobs in their respective professional fields.

A Strategy for the Development of Higher Education 2014–2020 is currently being finalised. It includes measures that aim to:

(i) reform tertiary education so as to increase competition for funding among higher education establishments based on the post-graduation employment destinations of the students;

(ii) adapt admission by subject to the needs of the labour market; and

(iii) and strengthening the connection between education, business and science.[9]

Measures to improve the employability of university graduates include projects co-funded by the European Social Fund, such as “Student practices” and “Updating higher education curricula in line with labour market requirements”, which are currently underway. More than 50 000 students in higher education took part in the first project. Thirty-six out of forty-one higher educational institutions are taking part in the second project.[10]

As far as the use of e-learning is concerned, since 2008 Bulgaria has launched several EU funded initiatives to support distance learning in higher education. The 'Raising qualification of academic teachers' project which ran between 2008 and 2011, provided training for 250 academic teachers on using e-learning and distance learning

6 Source: EUROSTAT 2013
7 People aged 20-34 who left education between one and three years before the reference year.
8 Source: EUROSTAT 2013
9 Source: Draft Strategy for the Development of Higher Education 2014–2020
10 Source: NRP 2014

methods in their specific subject. The 'Development of electronic forms of distance learning in higher education' project is currently underway.[11]

4.3 Transversal competences, skills relevance and learning mobility, new ways of teaching and new technologies

Bulgaria has a low percentage of individuals aged 16-74 with strong computer skills, which is consistent with the low level of access to ICT (12% in 2012). According to the e-Skills 2020 Europe Report for 2014[12], the demand for software specialists is three times higher than the supply from educational institutions (2 000 compared to the 6 000 needed per year), with an increasing trend to increase in the medium and long term[13]. Bulgarians are less confident in their entrepreneurship skills than the EU average, while they feel more confident about their foreign language skills. The learning mobility of incoming students is lower comparing to the EU average.

The Strategy for Effective Implementation of ICT in Education and Science (2014–2020) was developed with a package of specific measures to create a unified system for school education, higher education and science. Bulgaria has taken actions to strengthen IT education in schools and improve digital literacy.

A comprehensive NQF for LLL based on learning outcomes, which includes qualifications from all levels and subsystems of education and training, was formally adopted in 2012. The NQF is to provide a basis for validation of non-formal learning. The intention is to indicate EQF levels on all qualifications after the formal referencing to the EQF.

5. Tackling inequalities

5.1 Starting strong: improving early childhood education and care and tackling early school leaving

The early school leaving rate is slightly above the EU average (12.5% compared to 12% in 2013), and has stagnated over the last two years, following the consistent decrease in early school leavers seen in previous years.[14] It is particularly high in the south-eastern and the north-western regions (19.4% and 16.8% respectively)[15]. Participation in early childhood education and care is lower than the EU average (87.1% compared to 93.9% in 2012)

Programmes and measures to prevent early school leaving are in place, most of them as of 2011-2012. The measures focus mainly on extracurricular activities, while programmes focus on work in a multicultural environment and work with children and students with special educational needs. Bulgaria offers alternative qualification pathways for students who left school without qualification, with classes held during the day and in the evenings[16].

The National Strategy on Diminishing the Number of Early School Leavers (2013-2020) focuses on ensuring equal access to pre-school and school education and support for personal development in the system. The strategy aims to stimulate cross sectorial partnerships in implementing integrated policy and to ensure an open access to education.[17]

A pilot project "Improving the quality of education in secondary schools by introducing a full day organisation of the education process" was finished in 2013. From December 2013, a programme for career guidance training was launched in 28 cities.

As of 2011-2012 a 2-year preschool education has been made compulsory. In 2013 the implementation of the Social Inclusion Project continued to renovate and modernise the equipment in centres for integrated early childhood development services for children under 3 years of age. By the end of January 2014, a number of crèches and kindergarten groups were opened in 17 municipalities.[18] Participation in pre-school education is particularly low among socially disadvantaged groups such as Roma which correlates with the high school drop-out rates of these groups.

11 Source: Modernisation of Higher Education in Europe Access, Retention and Employability 2014, Eurydice Report, p. 52
12 Source: e-Skills Europe report, CEDEFOP 2013
13 Source: E-Skills In Europe. Bulgaria Country Report 2014 p.3
14 Source: EUROSTAT 2013
15 Source: NRP 2014, p. 48
16 Source: NRP 2014, p. 21
17 Source: National Strategy on Diminishing the Number of Early School Leavers (2013-2020)
18 Source: NRP 2014, p.22

5.2 Basic skills of students

The 2012 OECD Programme for International Student Assessment (PISA)[19] report on the mathematics, science and reading skills of 15 year olds revealed that Bulgaria is still some distance from the EU's target of reducing the percentage of low achievers to below 15%. The levels in Bulgaria are 39.4% for reading, 43.8% for mathematics and 36.9% for science. Although there has been improvement since 2009, Bulgaria had the lowest percentages in reading and mathematics and the third lowest percentages in science out of the EU 28 Member States.

The influence of socioeconomic factors, different schools and places of residence on pupils' performance is higher than the EU average. While pupils from specialised secondary schools and those from large cities perform significantly above the national average, pupils from smaller towns and villages and those from secondary comprehensive schools without specialised classes lag behind the national average[20].

Decreases in reading achievement can be observed in the 2011 TIMSS &PIRLS studies on 10 year-old students. Although students at this age continue to perform above the average, Bulgaria is one of four countries to have shown net declines in achievement since 2006.[21]

Measures to improve the learning outcomes for students include a piloted project for introduction of new model of full-time organisation of the education process and the national strategy for the development of pedagogical staff mentioned above. During the 2013–2014 school year, 3363 children from the preparatory groups of kindergartens and schools, 4 181 primary school students and 6 251 pupils from the pre-high-school level were provided with supplementary training.[22]

19 http://www.oecd.org/pisa/keyfindings/pisa-2012-results.htm.
20 Source: NRP 2014, p.48
21 Source: PIRLS 2011 International Results in Reading, p. 7
22 Source: NRP 2014, p.48