

Chapter 1

School education in the Slovak Republic

The majority of children in the Slovak Republic attend public schools, although they may be enrolled in different school types according to their interests and ability, with academic selection at ages 11, 14 or 15. There is not a high degree of grade repetition, but there is a well-established culture of transferring students to different schools due to their low academic performance. International and national student assessments reveal a large proportion of underperforming students and a highly inequitable school system. In 2001 the “Millennium” plan for educational reform set out a vision for reforming schooling in the Slovak Republic over a 15-20 year period. Since then, a series of legal reforms have sought to introduce more freedom throughout the school system.

This chapter provides an overview of the key features of schooling in the Slovak Republic for readers who are not familiar with the system, with an aim to better contextualise the approaches to assessment and evaluation.

Economic context

The Slovak economy has shown signs of recovery following the impact of the global financial crisis (OECD, 2012). However, levels of long term and youth unemployment are worryingly high and pose a significant challenge to future productivity and growth. The unemployment rate in the Slovak Republic is 13.8%, and around 60% of the total unemployed population has a low level of education. There are, therefore, major economic incentives for individuals to pursue education. An international comparison shows that the reduced risk of unemployment for Slovak men and women with upper secondary education is particularly strong, and there are considerable benefits to attaining upper secondary education. The net present value for a man with upper secondary education is USD 16 3387 compared to USD 10 0277 on average in the OECD. For a woman it is USD 13 7078 compared to an OECD average of USD 69 124 (Chart A7.2, OECD, 2013a). There is also evidence that Slovak children in homes with an unemployed parent are at far greater educational risk than on average in the OECD. Just over 14% of the Slovak students participating in PISA 2012 reported that their fathers were not in full or part time paid employment and their average performance disadvantage in mathematics was 62 points (this compares to a performance disadvantage of 24 points on average in the OECD for students whose fathers are not in paid employment) (OECD, 2013b, Table II.3.2).

While there is a greater degree of income equality in the Slovak Republic compared to in the majority of OECD countries, there are concerns about regional disparities, with a particularly high concentration of poor households in the Eastern regions (OECD, 2012). In the Prešov Region, visited by the OECD Review team, the unemployment rate is 17%, with a high of 22% in the Kežmarok district. The level of regional disparities (as measured by the Gini index of household disposable income, after taxes and transfers) is more pronounced in the Slovak Republic than in other OECD countries (OECD, 2012). In the PISA 2012 mathematics assessment, Slovak students in rural areas were significantly outperformed by their peers in towns and cities, although much of this was explained by socio-economic differences (OECD, 2013b, Table II.3.3a). Even when taking into account these socio-economic differences, the performance disadvantage for students in rural areas is significantly more pronounced than on average in the OECD.

Main features of the school system

In the Slovak Republic, although the majority of children attend public schools, they may be enrolled in different school types according to their interests and academic ability. While there is not a high degree of grade repetition, there is a well-established culture of transferring students to different schools due to their low academic performance. This section presents details.

Compulsory schooling typically from age 6

Compulsory schooling lasts ten years, typically starting at 6 years old (although a younger child may start schooling after approval) and ending at 16 (although in specific cases this may be extended to 17 or 18 years old). In 2011, 85% of the population aged 15

to 19 was enrolled in education (OECD, 2013a). Children may attend different levels of education in a variety of different school types:

- **Primary education** (ISCED 1) comprises Years 1 to 4 and is offered in basic schools, as well as in specialised schools: primary art schools and language schools.
- **Lower secondary education** (ISCED 2) comprises Years 5 to 9 and is offered in basic schools, *gymnázium* (academic secondary schools), secondary vocational schools, as well as in specialised schools: conservatories (artistic education), primary art schools and language schools.
- **Upper secondary education** (ISCED 3) starts at Year 10 and goes until Year 13 in *gymnázium* and until Year 11, 12 or 13 in secondary vocational schools. This is also offered in specialised schools: conservatories and language schools.

A high degree of academic selection within the school system

Children may transfer to an academically selective school (*gymnázium*) at the start of Year 6 (age 11), Year 9 (age 14) or Year 10 (age 15). Considering this early age of academic selection, the number of different school types (see above) and the percentage of students in academically selective schools, the Slovak Republic is classified as one of four OECD systems with a high horizontal differentiation at the system level – the others being Austria, the Czech Republic and Hungary (OECD, 2010).

Data from OECD’s PISA 2012 assessment indicate that 50% of 15-year-olds were in schools where the principal reported that student academic performance records were always considered in decisions to admit students, in comparison to 39% on average in the OECD (OECD, 2013c, Table IV.2.7). This is the dominant practice at the upper secondary level (83% of students, compared to 52% on average in the OECD), but less common than on average in the OECD at the lower secondary level (8% of students studying at ISCED 2 level, compared to 27% on average in the OECD) (OECD, 2013c, Table IV.2.8). Furthermore, at the upper secondary level there appears to be an established culture in many schools to transfer students to a different school due to either their low academic performance, behavioural problems or special learning needs: 37% of Slovak students at the upper secondary level were in schools where the principal reported this would be very likely, in comparison to 16% on average in the OECD (OECD, 2013c, Table IV.2.10).

Although grade repetition is not common practice in the Slovak Republic, there are indications that this may be becoming more frequent. Between PISA 2003 and 2012, there was a notable increase in the rate of grade repetition reported by students in the Slovak Republic, from 2.5% to 7.6% (OECD, 2013c, Figure IV.2.10). This contrasts with an overall drop in grade repetition among OECD countries over the same period.

Majority public provision, but around 6 per cent of students are in privately managed basic schools

All school types in the Slovak Republic receive public funding, but their management varies (Table 1.1). There are five categories of “school founders” in the Slovak Republic, broadly split across:

- **Public schools:** schools' founders can be a municipality (an independent rural settlement with its own council or a town/city), a region or a regional school authority.
- **Church schools:** founded by a state-approved church or religious community.
- **Private schools:** founded by an approved legal entity or person.

Table 1.1 Number and proportion of students enrolled by major school types (2012/13)

	Public (State)	Church	Private
Basic schools			
Years 0 - 4	189 109	10 620	2 566
Years 5 - 9	214 331	11 731	1 782
Total basic school	403 440	22 351	4 348
Percentage of students	93.8%	5.2%	1.0%
Secondary schools			
Academic (<i>gymnázium</i>)	63 603	12 904	3 839
Percentage of students	79.2%	16.1%	4.8%
Vocational (excluding external study)	139 151	3 775	15 030
Percentage of students	88.1%	2.4%	9.5%

Note: Children may attend different levels of education in a variety of school types. For example, it is possible for children to follow ISCED 2 schooling in all the major school types listed in the table. For full enrolment data in special schools, conservatories, primary art schools and language schools, see Annex 1 of NÚCEM, 2012.

Source: NÚCEM (National Institute for Certified Educational Measurements) (2012), *OECD Review on Evaluation and Assessment Frameworks for Improving School Outcomes: Country Background Report for the Slovak Republic*, NÚCEM, Bratislava.

All schools in the Slovak Republic receive public funding. International comparison shows that the Slovak Republic has an above average proportion of students in public schools, that is, schools that are publicly managed. At the primary and lower secondary levels (ISCED 1 and 2), 94% of students are enrolled in public schools. Fourteen per cent of students at the upper secondary level (ISCED 3) are in privately managed schools (Table 1.2).

Table 1.2 Proportion of students enrolled by level of education and school management (2011)

	Public schools	Government-dependent private school	Independent private schools
ISCED 1			
Slovak Republic	94	6	0
OECD average	89	8	3
ISCED 2			
Slovak Republic	94	6	0
OECD average	86	11	3
ISCED 3			
Slovak Republic	86	14	0
OECD average	81	14	5

Note: Government-dependent private schools receive at least 50% of their funding from public sources.

Source: OECD (2013a), *Education at a Glance 2013: OECD Indicators*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/eag-2013-en>

Responsibilities

While the National Institute for Certified Educational Measurements (NÚCEM) (2012) describes the Slovak school system as still rather centralised, there are three separate levels of public administration with elected representatives and administrative staff: (i) central (State); (ii) regional; and (iii) local (municipal). Furthermore, regional and municipal authorities exert a direct influence over public schools as their organising bodies (“school founders”) and schools have direct responsibilities for staffing and curriculum. The major responsibilities are as follows:

- **Central authorities** (the Ministry of Education): set the framework for schooling, including educational laws and national education programmes (content and performance standards); manage the school network, including adding new schools to the network or removing existing schools from the network – schools on the network are approved to deliver upbringing and educational services and to obtain public funding; allocate financial resources via state administration regional authorities¹ for basic, secondary and special school founders for capital and operational expenses (including staff salaries); monitor school compliancy with regulations and appropriateness of school education programme (conducted by the Slovak State School Inspectorate); and monitor student performance (national and international assessments conducted by NÚCEM).
- **Regional authorities**²: directly manage public upper secondary schools (students aged 15 and older) as the school founders; monitor school use of funding and school budgets; may provide direct funding to public schools from regional budgets.
- **Municipal authorities**: directly manage public schools offering primary and lower secondary education (students up to age 15) as the school founders; monitor school use of funding and school budgets; may provide direct funding to public schools from municipal budgets.
- **School founders**: conduct school leader appraisal; must approve the school annual report (report on the school’s educational activities, results and conditions); in addition to regional and municipal authorities, other school founders include state-approved church or religious community (Church schools) and an approved legal entity or person(s) (private schools).
- **School leaders**: each school is a legal entity and the employer of teachers and other staff. The school leader is responsible for: ensuring that the school complies with legal regulations (including that the school education programme aligns with the national education programmes); the school budget and effective use of resources and management of school facilities; establishing and implementing a plan for further education and training for school staff, as well as their annual appraisal.

Main trends and concerns

Performance improving in primary education, but significant challenges in secondary

In international comparison, the Slovak Republic has a mixed set of outcomes. Performance in international assessments indicates some improvement in reading at the primary level, but some significant and growing challenges at the secondary level.

At the primary level, international evidence from the IEA's PIRLS and TIMSS indicates that Slovak pupils (average age 10.4 years) perform above the international average in reading and science assessments, but only around the international average level in mathematics (Mullis et al., 2012; Martin et al., 2012; Mullis et al., 2012b). The relatively poorer average performance in mathematics appears to be related in part to the fact that topics included in the international assessment were not included in the Slovak curriculum through Grade 4 (among the 35 TIMSS mathematics topics, 21 were not included in the Slovak curriculum; the average for participating countries in TIMSS was 12 topics not included) (Mullis et al., 2012b). Positive messages from these international results include: evidence of improvement in Slovak students' reading performance between 2001 and 2009, in particular in assessing "reading for literary purposes" and "interpreting, integrating and evaluating" (Mullis et al., 2012a); and 11% of Slovak students performing at the advanced international benchmark in science (performing the most demanding tasks on the test) in comparison to 7% internationally (this was also a strength in the TIMSS 2007 science test) (Martin et al., 2012). Although students reported similar positive attitudes to mathematics and science learning compared to students internationally, their school principals were less positive about general aspects of the school climate (4% were strongly positive, compared to 22% on average internationally) (Mullis et al., 2012b; Martin et al., 2012).

At the secondary level, international evidence on student performance from the OECD's PISA 2012 results/report indicates that Slovak students perform below the international average in mathematics, reading and science (OECD, 2014). In mathematics, this represents deterioration in performance compared to PISA 2009, when Slovak students performed around the OECD average. In fact, since PISA 2003, Slovak student performance in mathematics has deteriorated both in absolute terms and relative to other countries. Among the eight countries with similar mathematics performance in 2003, students in Austria, Germany, Ireland and Poland performed at a higher level relative to Slovak students in 2012 (performance remained similar to students in Hungary, Luxembourg, Norway and Sweden). At the same time, in six countries that had a lower mathematics performance in 2003 relative to Slovak students, student performance improved and was similar to Slovak students in 2012 (United States, Latvia, Spain, Portugal, Russian Federation and Italy). This meant that the Slovak Republic ranked from 23 to 29 of the 33 OECD countries in PISA 2012 mathematics (OECD 2014, Figure I.2.14).

A significant proportion of students underperform in secondary education

A significant challenge in the Slovak Republic is the high proportion of low performing students. In PISA 2009, 22.3% of students demonstrated low levels of reading proficiency compared to 18.8% on average in the OECD. In PISA 2012, 27.5% of students demonstrated low levels of mathematics proficiency compared to 23.1% on average in the OECD. In fact, a significant increase in the proportion of low performing

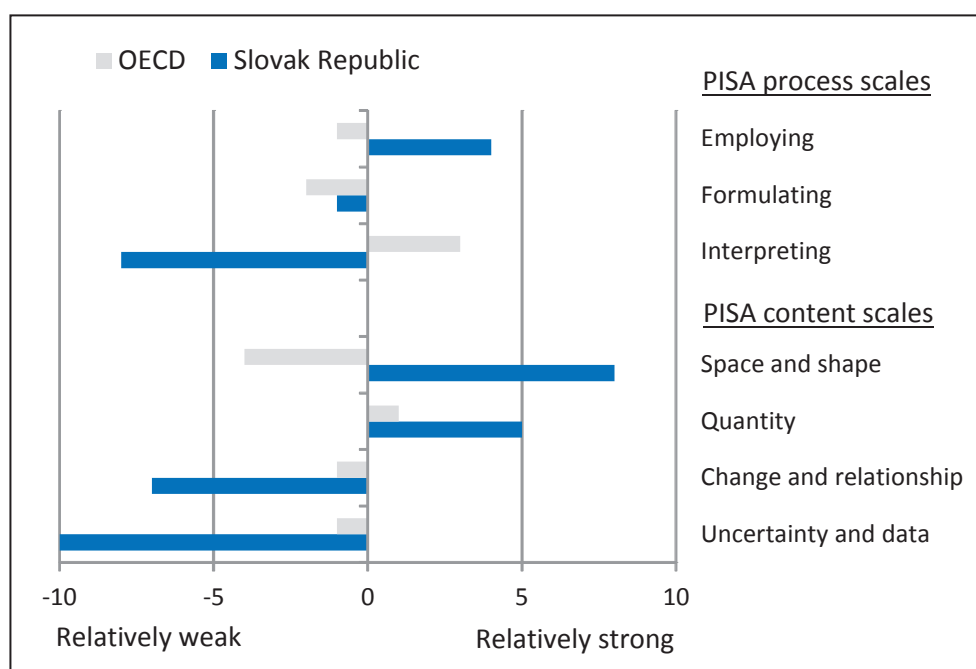
students in mathematics has driven the deterioration in mathematics performance since 2003 (7.5 percentage points increase of students performing below mathematics proficiency Level 2) (OECD, 2014, Figure I.2.23). It is the same case for science performance (OECD, 2014, Figure I.5.11). Tackling such underperformance is of clear economic importance: in the Slovak Republic, the estimated public benefits for educating a man to upper secondary level are four times the estimated public costs - and for women the benefits are 2.5 times more than costs (Tables A7.2a and A7.2b, OECD, 2013a).

The Slovak Republic is among the ten PISA participants with the widest spread in mathematics scores (score point difference between the top and bottom 10% of students) (OECD, 2014, Figure I.2.24). However, the observed gender difference in mathematics performance has reduced between 2003 and 2012 and is now around the OECD average (OECD, 2014, Figure I.2.27).

A concern to develop students' critical thinking and ability to apply their knowledge and skills

The Slovak State Schools Inspectorate (ŠŠI) has indicated quality concerns among teachers in their professional ability to develop students' higher-order thinking skills (ŠŠI, 2011). There is some evidence from international assessments to support this. PISA 2012 distinguished between different processes that students go through in solving a mathematical problem: formulating situations mathematically; employing mathematical concepts, facts, procedures and reasoning; and interpreting, applying and evaluating mathematical outcomes. Slovak students found it relatively more difficult to interpret mathematical outcomes. For example, evaluating their results in relation to the original problem or to show how the mathematical information obtained relates to the contextual elements of the problem (Figure 1.1).

Figure 1.1 Relative strengths and weaknesses on the PISA 2012 mathematics assessment



Source: OECD (2014), *PISA 2012 Results: What Students Know and Can Do (Volume I, Revised edition, February 2014): Student Performance in Mathematics, Reading and Science*, Figures 1.2.37 and 1.2.52, PISA, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264208780-en>.

The relative weakness in the PISA 2009 reading test for Slovak students was on tasks assessing student ability to “reflect and evaluate” (OECD, 2010). Such tasks require students to relate their own knowledge or experience to the text (reflect), and to consider the text objectively and make a judgement on its quality and appropriateness (evaluate). Slovak students performed around the OECD average on tasks assessing their ability to “access and retrieve”. At the primary level, international evidence on reading performance indicates that students had made some improvement in “interpreting, integrating and evaluating” between 2001 and 2009 (Mullis et al., 2012a), but shows difficulty for Slovak students in performing “reasoning tasks” in science. Reasoning tasks go beyond the solution of routine problems to encompass unfamiliar situations, complex contexts and multi-step problems (Martin et al., 2012).

Quality concerns have also been flagged in the teaching of foreign languages and the quality of ICT education (ŠŠI, 2011). Regarding mathematical content in PISA 2012, Slovak students found questions on uncertainty and data, which includes content on probability and statistics, more challenging (ranking between 28 and 30 out of 33 OECD countries) and performed relatively better on questions on space and shape, which includes content on geometry, spatial relationships and measurement (ranking between 14 and 22 of 33 OECD countries) (see Figure 1.1).

International evidence indicates significant concerns for equity in the Slovak school system

As in all OECD countries, there is an established relationship between student socio-economic background and their performance in the Slovak Republic. The range of different socio-economic backgrounds among Slovak students is similar to the OECD average (Figure II.2.6, OECD, 2013b). However, compared to on average in the OECD, Slovak students’ socio-economic background is more strongly related to their mathematics performance in PISA 2012 (socio-economic background explains 14.6% of variance in mathematics performance in the OECD and 24.6% in the Slovak Republic), and the performance differences across socio-economic groups are greater (Table II.A, OECD, 2013b). As noted above, educational differences between rural areas and cities are significant.

Peer effects seem to be a growing concern in the Slovak Republic. At the primary level, school principal perceptions of school climate were strongly correlated with student average performance in mathematics and science (and more so than on average internationally) (Mullis et al., 2012b; Martin et al., 2012). Similarly, compared to OECD countries on average, school performance in PISA 2012 mathematics varies more in the Slovak Republic, and these performance differences are explained to a greater extent by student and school socio-economic characteristics (Table II.2.9a, OECD, 2013b).

Another challenge to equity is the high concentration of Roma children in schools providing special education, which impairs their integration (World Bank, 2012). Educational outcomes of the Roma minority are particularly poor: more than 70% of the Roma population has not attained upper secondary education and Roma do not attain tertiary education (OECD, 2012). Although only a small proportion of Slovak students reported not having attended early childhood education or care, these students were at considerable risk of low performance in PISA 2012 mathematics (Figure II.4.12, OECD, 2013b). There have been several measures to encourage parents with less advantaged socio-economic status to enrol their children in early childhood education, but the participation of Roma children remains low (Šiškovič, 2012 in OECD, 2012).

Main policy developments

In 2001 the “Millennium” plan for educational reform set out a vision for reforming schooling in the Slovak Republic over a 15-20 year period. Since then, a series of legal reforms have sought to introduce more freedom throughout the school system.

The initial step in 2003 was the introduction of Act No. 596/2003, on decentralisation and funding reform. This set roles and responsibilities for the state, regions and municipalities, and introduced a system of mainly normative funding to schools. The normative budget for each school is dependent on the number of students at the school, the school type and other parameters defined by the law. Normative funding covers expenditures for teachers’ salaries and in 2004, 2007 and 2010, it made up 98%, 97% and 96% of total school funding respectively (NÚCEM, 2012, Table 1). Non-normative funding may include, for example, expenditures on student transportation or on emergency repairs to school facilities.

The School Act (2008) represents a major reform to schooling. Most notably, it sets the framework conditions for the content of education, but introduces a degree of autonomy at the school level to develop specific educational programmes within this framework. It also establishes more rights for children, including access to a free year of preschool immediately before primary education starts, free choice of schooling in a public, Church or private school, and a ban on the use of corporal punishment in schools.

The Act on Pedagogical Employees and Specialist Employees (2009) guarantees teachers the freedom to choose pedagogical methods and teaching approaches.

Introduction of national assessments

Full-cohort national assessments in Year 9 (*Testovanie 9*) have been conducted since 2009. Prior to this, there was a national sample based assessment. Students are assessed in the Slovak language and literature, as well as, where applicable, in the major language of instruction (Hungarian or Ukrainian) and in mathematics. The NÚCEM is currently developing national assessments for Year 5 and aims to implement these for the school year 2014/15. For more details see Chapters 3 and 6.

Promoting a competency-based learning approach

The School Act (2008) introduces a two level approach to curriculum. The national education programmes define the core content to be taught and each school develops a school education programme. The national education programmes specify competencies and “cognitive competencies” in different content areas. For example, “Language and communication” within the subject “Slovak language and literature” includes the competency “Distinguishing sentences and texts”. The associated cognitive competencies are “Reproduction”, “Application”, “Analysis”, “Synthesis”, “Generalisation”, “Evaluation” and “Self-assessment” (NÚCEM, 2012, Annex 4). Accordingly, the final examinations at ISCED 3 (*Maturita*) and the national assessments in Year 9 (*Testovanie 9*) have progressively adapted to better assess competencies listed in the national education programmes.

Creating a salary and bonus system for teachers

The Act on Pedagogical Employees and Specialist Employees (2009) specifies qualification requirements for school staff and their rights to professional development. The Act creates a salary system based on teachers’ level of qualification (their academic qualification and career level and responsibilities), as well as a system of bonuses (based on performance or credits gained from attending professional development training).

Notes

1. These represent central authorities, but are located in each of the eight regions. At the time of the OECD review such Regional State Administration authorities were part of the Ministry of Education. However, from 1 January 2013 these are part of the state administration regional authorities under the Ministry of Interior.
2. These are autonomous regions and do not represent central authorities.

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