

Mathematical Literacy

Nearly 63% of 49 monitored secondary schools had developed a plan for enhancing the teaching of mathematics. The quality of teaching of the subject in question was model in 27% of schools. SEPs, currently being drafted, supported the establishment of the mathematical literacy of students in almost 90% of SSs. For drafting SEPs and introducing innovation in the content of education, secondary schools also used the findings of PISA research and almost 64% of SSs took part in tests prepared by CERMAT. Almost 48% of SSs were involved in other types of testing of mathematical skills. Almost 90% of SSs monitored the quality of work of teachers of mathematics and 19% of schools excellently used professional tests as a tool for their self-evaluation. Management of almost 90% of SSs monitored the mathematical activities of teachers. But only 44% of SSs had established a system of comparative tests.

Conditions in terms of the availability of teachers of mathematics were above average in 49% of SSs and teachers in more than 53% of schools were professionally well qualified. Almost 46% of SSs provided further education for mathematics teachers while 8% of SSs displayed excellent conditions for further education in mathematics. The majority of secondary schools implemented professional development for pedagogical staff in the area of methodology and the introduction of curricular reform. More than half of SSs offered their teachers professional development focusing on effective teaching procedures. 88% of SSs offered their teachers other FEPS courses. Material conditions are deemed to be very good in 88% of the monitored secondary schools; however, only 2% of SSs ensured excellent material support. Teaching aids for teaching mathematics were missing in only six schools. 81% of SSs had professional literature for teaching mathematics. 88% of SSs enabled their students to use information technologies when learning mathematics and more than 61% of SSs were equipped with software for teaching mathematics while presentation devices were available in 81% of SSs. But there was only one of the monitored secondary schools which excelled in using information technologies.

More than 19% of schools prepared and organised teaching activities and applied modern methods and forms of work at an excellent level. One third of schools prepared individual education plans for students with SEN and 55% of secondary schools worked individually in mathematics lessons with students who have SEN and the care for such students was excellent in 11% of SSs. 59% of SSs offered supplementary activities relating to mathematics. More than 45% of school worked with gifted students. Almost 64% of SSs, when teaching mathematics, carried out activities aimed at developing the capabilities of gifted students. However, only 7% of SSs really excelled in work with gifted students and 14% of schools were very good at developing the competences of students which they need in order to improve their mathematical literacy (For more details concerning individual aspects of developing students' competences see Table 39).

When observing how mathematics was taught in secondary schools CSI found that teachers fully respected school education plans. Teachers in almost all SSs (95%) selected appropriate methods and forms with regard to the specified goals of their lessons, the curriculum content and composition of classes. More than 29% of SSs excelled in organising the mathematics lessons. Almost all teachers of mathematics (85% of SSs) used effective time management and students had enough time to think the problem over and to prepare effective arguments. Teachers in almost all observed lessons checked how assigned tasks were being met on an ongoing basis and provided support to weak students. Material support for teaching was above-the-average in only 13% of SS. More than 36% of SSs used teaching resources