

Natural Science Literacy

Almost 73% of the 315 basic schools visited in the school year 2007/2008 included natural science education in the overall teaching strategy. When conceiving strategic objectives the schools were building on the Long-term Policy Objectives of Education and the Development of the Educational System in the Czech Republic while placing an emphasis on priorities of the strategy of sustainable development. Almost 90% of BSs included cross-reference natural science topics, in a functional manner, to their SEPs. Strategies of natural science education can be considered to be exceptionally well drafted in 23% of BSs. Schools which included natural science education in the school-wide concept planned to implement more projects affecting this area. In 2007/2008 almost 72% of BSs prepared natural science related projects. More than 27% of BSs focused specifically on the teaching of natural science subjects and 37% of schools offered pupils optional subjects concerning natural sciences. Activities pertaining to the field of natural sciences beyond normal teaching were offered in more than four fifths of BSs. 58% of BSs used their self-evaluation for quality management in the teaching of natural sciences and almost one fifth of BSs used their self-evaluation in an excellent manner. Almost 86% of BSs have renewed the content of education in natural science. More than one third of BSs integrated subjects relating to natural science and 58% of BSs included natural science topics in subjects that have a different focus.

In 2007/2008 almost 24% of BSs reported above-standard material conditions for the teaching of natural sciences and 34% BSs ensured above-average material support to the teaching of natural sciences. Through class observations it was found that more than 90% of teachers used good technical equipment and facilities to apply experimental methods of teaching, particularly when teaching physics and chemistry. However, demonstration of experiments carried out by teachers were slightly more common than experiments performed by pupils themselves. Almost all basic schools (95%) enabled their pupils to use ICT when learning natural sciences.

In 2007/2008 the majority of basic schools (86%) modernised equipment for teaching natural sciences. Specially equipped classrooms were available in 46% of BSs. More than one quarter of BSs could use classrooms and other rooms that were perfectly furnished and more than 83% of BSs were efficiently equipped with resources for teaching natural sciences. Nearly three quarters of BSs had meeting rooms for teachers at their disposal. The teaching documents used were excellently exploited in 23% of BSs and teaching aids and textbooks were very good in more than one quarter of schools.

The composition of the pedagogical staff was excellent in 23% of BSs and the climate in more than half of BSs was exemplary. Almost all BSs (97%) made use of opportunities to improve the school climate and organised social events for pupils and teachers. The quality of mutual relationships was exemplary in 45% of BSs. In the majority of BSs (94%) teachers of natural science subjects work effectively together. In 37% of BSs teachers, when working together, developed the key competences of pupils in a distinctive way and in 86% of schools teachers cooperated with the school board. In 2007/2008 in 23% of the monitored BSs natural science teachers did not satisfy relevant professional qualifications while unqualified teachers accounted only for 14% of the total. The majority of BSs (92%) had prepared a plan of the further education for their teachers. Almost one quarter of BSs provided their teachers with extraordinary conditions for further education. In the majority of BSs the professional development of teachers targeted the preparation of teachers to meet the requirements of innovation in the content of instruction in natural science subjects and in more than three fifths of BSs the further education of teachers was directed towards the development of natural science teaching. The majority of schools used the professional qualifications of teachers effectively when teaching natural sciences.