

Table 14 Support for development of natural science skills in pre-school education

Monitored indicators (occurrence in class instruction, data as %)	School year		Trend
	2008/2009	2010/2011	
Links between education and practice and life situations	91.3	94.1	+
Use of new scientific and technological findings	34.3	34.3	0
Care for the surrounding environment	61.6	70.2	+
Opportunities for experiments, manipulation and intentional observations	62.5	68.7	+
Acquiring awareness of the significance and protection of the environment	62.8	63.9	+

A high degree of inclusion of out-of-school activities (such as outdoor schools and/or trips) and their use for the development of the natural science literacy of children, active searching for and utilising of external forms of cooperation at the local level and an emphasis on care for the environment were positive. A comparison of selected indicators of natural science skills after three years is demonstrated by the following overview.

Prevalence of mere provision of information in the monitored areas of recognising animate nature (raising animals, growing plants, caring for the school garden and the nearest neighbourhood, structural monitoring of natural phenomena) and inanimate nature (simple experiments with materials, looking at the landscape, weather) is considered as negative because the share of practical activities was very low. Contacts of children with animate nature were ascertained in only 57 % of the visited kindergartens. An insufficient emphasis was put on support of child independence in elementary natural science “research” and on the development of the competence to solve problems (this affects the sphere of natural science procedures in compliance with their OECD/PISA definition).

An occurrence of activities carried out in order to involve children in care for the class environment and the close neighbourhood of their schools substantially decreased (a decline of 27 %). The CSI recommends teachers to find an appropriate form and to focus, to a larger extent, on options to inform children about new scientific and technological findings.

The development of new tools and procedures which would allow for evaluation of the effectiveness of support for natural science literacy in education was launched in cooperation with the Faculty of Natural Sciences of the Palacky University in Olomouc. The Annual Report encompasses only the main conclusions arising from the findings provided while in-depth research will continue in this school year also. The CSI will publish its results in a separate thematic report.

Relations between Areas of Education

Activities aimed at developing reading literacy and natural science literacy, in particular creating of opportunities for learning local culture and caring for neighbouring environments, support each other to a largest extent.

Activities pertaining to the area of social literacy and education towards health, in particular support for the development of aesthetic perception, experiencing support for a healthy lifestyle, support each other considerably.