Abstract

This publication consists of four parts: the original printed science textbook, an adapted version for special educational needs and DAISY-format digital versions of both, providing full-page illustrations on a computer screen. Teachers can give pupils digital or printed textbooks, according to their educational needs. For the digital textbooks, all the texts are available in audio format: contents, page numbers, sections, sub-sections, artwork names, main text and all the information presented in the illustrations. Readers can easily follow and listen to the text. The program allows them to find the relevant sections or pages, stop and repeat the text, change the text format (bold, underline, highlight, increase size, etc.), select and change not only the text marking colour, but also the colour of the letters, and speed up or slow down the reading speed.

The textbook provides students with an introduction to the main natural objects and phenomena and their inter-relationships. It promotes ICT use for searching for information about science in various sources, analysing said information and imparting it to others, as well as demonstrating how to make hypotheses, etc.

The Following in the footsteps of scientists for 6th grade multimedia science teaching tool won the national 'Innovation Award 2011'.

Main findings

In order to ensure effective special needs education and innovatively fulfil special educational needs, it is important to create conditions for the development and application of special teaching tools. The digital versions of this textbook fully correspond to the printed textbooks, so teachers can work simultaneously with both mainstream students and students with special educational needs. This is the first training tool of this kind to assist teachers in providing inclusive education for students with a variety of visual, learning, intellectual, speech and language and physical and motor impairments.

The multimedia science teaching tool is applicable in several different ways. It may be useful not only for special needs education, but also for students with learning gaps, who have lower perception and concentration abilities.