

This diploma thesis deals with the practical use of information and communication technologies in the educational process, especially in the teaching of biology. It is divided into theoretical, research and creative parts; In the introduction, the theoretical part defines the key concepts related to the issue, further maps the development of educational strategies in the context of ICT, summarizes and points out the possible pros and cons of using digital technologies in the school environment and provides a list of selected ways to use technology practically at school. The research part of the thesis deals with the opinions and attitudes of Czech teachers of natural history or biology at different types of schools in the area of using ICT technologies with a focus on the above mentioned subjects. The research was carried out in the form of a questionnaire survey, which was attended by 168 respondents across the Czech Republic. The creative part is based on the results of the research part of the work and presents the educational program Virtual around the School, which brings together all the materials for teaching a specific topic - systematic plant biology using digital technologies. This program was piloted in November 2019 in cooperation with Petra Strozziho Primary School in Prague.