

ABSTRACT

The current availability of computers and mobile devices in school facilities and the affordability of mobile devices for everyone provide for an increasing use of interactive geometry in the curriculum. The aim of this thesis is to summarize the printed and electronic resources used for teaching geometry, to study them in detail and to use them to build an electronic textbook and a collection of exercises in interactive geometry environment. GeoGebra is used among the interactive geometry environments, mainly because it offers the greatest variability for the purposes of this publication. The electronic publication can be used by both students and their teachers. Electronic publications were an essential part of the Czech education system during the period of compulsory distance education in years 2020 and 2021. The thesis includes a short questionnaire survey that aims to find out what textbooks or exercise collections are being used by teachers, what transformations are taught in secondary schools and to what extent. The results show that among teachers specific printed textbooks and collections are still more popular than interactive resources.

Keywords: geometric transformations, rotation, translation, homothety, GeoGebra