

The goal of this thesis is to describe teaching styles of two secondary mathematics teachers with very different approaches. One of them represents traditional frontal instruction and one prefers students to be more actively involved in the learning process. Their styles are compared based on their teaching a concrete mathematical topic, namely plane analytic geometry of lines. Examined teaching styles (frontal instruction and so-called realistic education) and selected research with a similar focus are described in the theoretical part of the thesis. The research consisted of observations in lessons of both teachers and a final test for their students. The acquired data has been analyzed by qualitative and quantitative methods.

The teacher representing traditional frontal instruction emphasizes practising and explaining the new topic. Problems are solved by herself or one chosen student on the blackboard. Questions, which she is asking, require mainly short answers and are focused on reproduction of the previously learnt knowledge. During the lessons of the teacher who is the creator and also an exponent of the so-called realistic education, students are solving problems independently. New topics are discussed collectively, the teacher often asks questions focused on the application of previous knowledge, and this process is leading to the formulation of the students' own thoughts.