

## ABSTRACT

This thesis is concerned with a constructivist approach to the introduction of the cosine and sine theorems at the secondary school. The aim was to develop recommendations for teaching which are based on the idea of motivating teaching cosine and sine theorems. This approach is based on available literature and builds on experience from my own teaching of this topic. By motivating teaching, I mean an approach that is consistent with the principles of constructivism and emphasizes pupils' active learning. Current textbooks for secondary schools were analyzed from a mathematical and didactic point of view. The aim of this analysis is to describe how the topic is elaborated in publications available to teachers, and to get inspiration for my own approach. My own teaching approach was based on the theory of generic models and has been implemented in two classes of the secondary grammar school. Data collected during teaching cosine and sine theorems (video recordings of lessons, field notes from teaching and pupil artifacts) were analyzed in a qualitative way. The thesis describes the teaching in detail, with an emphasis on key phases of the discovery of the two theorems. Pupils' involvement in this process is closely followed. Where teaching did not work as planned, possible reasons are found and suggested changes to the plan made. It has been shown that the presented approach to teaching this topic allowed pupils to discover many pieces of knowledge on their own and provided them with an opportunity to understand this part of mathematics.