

**ZMATH 2011a.00212**

**Gagatsis, Athanasios; Monoyoiu, Annita; Deliyianni, Eleni; Elia, Iliada; Michael, Paraskevi; Kalogirou, Panagiota; Panaoura, Areti; Philippou, Andreas**

**One way of assessing the understanding of a geometrical figure.**

Acta Didact. Univ. Comen., Math., No. 10, 35-50 (2010).

Summary: In this paper we present a summary of the results of two researches aiming to investigate primary and secondary students' geometrical figure understanding. In particular the first research dealt with the confirmation of a three level hierarchy about the role of perceptual, operative and discursive apprehension in geometrical figure understanding. On the other hand the second research investigated the role of the mereologic, the optic and the place way modifications in a first effort to analyse the operative apprehension of a geometrical figure. Finally we present the plans of a future research study aiming at combining and expanding the above mentioned theoretical models concerning the geometrical figure understanding. A new theoretical three level hierarchy in geometrical figure understanding is proposed and the role of the external representations in geometrical tasks and the role of proof are also discussed.

*Classification:* C30 G20 G30 D20

*Keywords:* geometrical figure understanding; perceptual apprehension; operative apprehension; sequential apprehension; discursive apprehension; external representations; role of proof; empirical investigations; research