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**The role of switching between the visual structures
in solving mathematical problems - eye-tracking study**

Description of the poster:

The poster concerns the research of students' perception of visual structures in van Hiele's sense (1986). The empirical studies described also make use of a combined methodology – eye-tracking and a written study questionnaire. There was an analysis of the research results of 14 pupils of the 1st class of a secondary school and 19 pupils from the Liceum. The subjects were shown slide on a computer screen with task and were requested to solve them. Further eye-tracking parameters suggest that the ability of switching over from one structure to another, as described by van Hiele (1986), between the geometric and arithmetic structures of the presented objects guarantees success in solving the task. Constructing various structures is not only fundamental for solving problems, but also for the sake of the development of many mathematical concepts and their properties in relation to mathematics, as well as in the context of developing other key competences.