



TSG 8 TEACHING AND LEARNING OF GEOMETRY (PRIMARY LEVEL)

The Organizing Team

Chair: Nathalie Sinclair, Simon Fraser University, Canada

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Members:

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This group provides a forum for discussion of the learning and teaching of geometry, with a focus on the elementary grades, K-6 (or preK-8). This Group will have short presentations on, and discussions of, important new trends and developments in research or practice, in geometry teaching and learning, and expositions of outstanding recent contributions to it.

The focus of the group will be on theoretical, empirical or developmental issues related to the themes below. The issues raised will be considered from the historical, epistemological and ontological, cognitive and semiotic, and educational points of view.

The following subthemes are proposed:

1. Studies of the use of new/alternate geometry curricula or curriculum components (including topological ideas, ethnomathematical approaches, etc.)
2. The use of tools/resources such as physical manipulatives (e.g., pattern blocks, cubes, paper folding, mirrors) and digital technologies
3. Problem solving in geometric contexts
4. Task design for the teaching and learning of elementary geometry
5. Explanation, argumentation, and proof in elementary geometry education
6. Spatial and geometric reasoning about two- and three-dimensional shapes
7. Psychological roots of spatial, visual and geometrical thinking
8. The role of geometrical transformations in learning and teaching geometry
9. Teacher knowledge and preparation in geometry education