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MODERN ART AND THE LEARNING OF MATHEMATICS

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The international movement of constructive art originated at the beginning of the 20th Century in the De Stijl movement in Holland, in the German Bauhaus and in the East European constructivism. The constructivists have made it as their aim to investigate the principles of Orders and structures in nature, in our society and in our technological environment and to express these in visual form.

The works of constructive art are of special interest for the teaching and learning of mathematics because of their mathematical, perceptual and conceptual implications. Today many investigations are undertaken in art with Systems that are based on mathematical or scientific concepts. In general, the Systems consists out of modules, onto which certain generative principles or functions act. The final work or a series of works is often the result of an intensive research work carried out by the artist.

In the discussion group several works of art will be presented in form of slides which may then serve as starting points for discussing various implications in the learning of mathematics. The following themes are proposed:

- Visual language and mathematical learning,
- Constructive artists, mathematicians and scientists: working approaches and modes of thinking,
- Perception, mental images, concept formation and concept representation,
- Perception, aesthetics and Information processing.

References:

GREVSMÜHL U, Mathematics and Modern Art, series of articles in: Mathematics Teaching, 118 and 122-128 (1987-1989)