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An investigation on the possibility to teach mathematical principles of tessellations in elementary school mathematics.

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Summary: This study was conducted to investigate the possibility of teaching tessellations' mathematical principles in elementary school mathematics. A survey was carried out and the two hours of the instructional experiment were developed for this study: triangular tessellation activity and rectangular tessellation activity. Six fifth graders from W elementary school participated voluntarily in the instructional experiment. It was shown from the survey that teachers and students both know what the tessellation is, but they don't know what the mathematical principles really are in the tessellation. This is because they have just done the covering up-activities in class. It was seen from the instructional experiments that even ordinary students were able to understand the mathematical principles of the tessellation if teachers could throw the suitable focusing questions like "how to move the rectangles making sides equal" and "how to gather vertexes making angle 360° ". Furthermore, it is desirable to teach the rectangular tessellation prior to the triangular tessellation since the rectangular tessellation is more easy to deal with than the triangular tessellation.

Classification: G22 U62 D42

Keywords: polygons; educational media; teaching aids; educational games; experimental teaching; research; teaching methods; propaedeutics; elementary geometry