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Analytic study on construction education based on Euclid's *On divisions*.

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Summary: The ancient Greek mathematician Euclid left three books about mathematics. They are *Elements*, *The data*, and *On divisions of figures*. This study is based on the analysis of Euclid's *On divisions of figures*. *On divisions of figures* is a book about the construction of the shape. Because, there are thirty six propositions in *On divisions of figures*, among them 30 propositions on constructions. In this study, based on the *On divisions of figures*, we explore the direction for construction education. The results were as follows. First, the proposition of *On divisions of figures* shall include the following information. It is a 'proposition presented', 'heuristic approach to the construction process', 'specifically drawn presentation', 'proof process'. Therefore, the content of textbooks needs a qualitative improvement in this way. Second, a conceptual basis of *On divisions of figures* is the *Elements*. The *Elements* includes 25% construction propositions. However, the geometric constructions contents in the middle school area is only 3%. Therefore, it is necessary to expand the learning of constructions in the mathematics curriculum.

Classification: G40 G80 D30 A30

Keywords: Euclid's *On divisions of figures*; construction; construction education; mathematics curriculum; geometry education

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