Subject-specific components in dynamic geometry software

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Abstract

Computer-aided visualization provides meaningful insight into geography teaching, which helps improve comprehension. With a dynamic geometry software (DGS), a teacher can represent a country's border as a list of points and have it drawn as a polygon. To further advance this approach, each country could be represented as a named object with many properties. The properties correspond to the country data such as area, population, significant points etc, which are either preloaded into the software or obtained at runtime from the Internet. We demonstrate how a DGS, which is extended with components, can be applied to geography teaching. This component-based approach can be further generalized to other subjects.

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