

ZMATH 2009d.00381

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Students discovering spherical geometry using dynamic geometry software.

Int. J. Math. Educ. Sci. Technol. 40, No. 3, 331-340 (2009).

Summary: Dynamic geometry software (DGS) such as Cabri and Geometers' Sketchpad has been regularly used worldwide for teaching and learning Euclidean geometry for a long time. The DGS with its inductive nature allows students to learn Euclidean geometry via explorations. However, with respect to non-Euclidean geometries, do we need to introduce them to students in a deductive manner? Do students have quite different experiences in non-Euclidean environment? This study addresses these questions by illustrating the student mathematics teachers' actions in dynamic spherical geometry environment. We describe how student mathematics teachers explore new conjectures in spherical geometry and how their conjectures lead them to find proofs in DGS.

Classification: G95 G65 R25

Keywords: dynamic geometry software; spherical geometry; teacher education; tertiary education

doi:10.1080/00207390802641650