

ZMATH 2016e.00786

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Subject matter analysis with a perspective on teacher education – the case of Galois theory as a theory of symmetry.

J. Math.-Didakt. 37, Suppl. 1, S163-S191 (2016).

Summary: Since Felix Kleins' influential statement on *Elementary mathematics from an higher standpoint* many scholars have discussed the role of mathematical knowledge in teacher education and generated diverse arguments for selecting and delivering university subject matter courses. This article contributes to the discussion by considering the special case of Galois Theory. It conducts a subject matter analysis of Galois Theory by drawing on several frameworks from general didactics, subject matter didactics and teacher competence, and by presenting a concrete university course that emphasizes the idea of symmetry and connections to school mathematics. Thereby it proposes an example for a "Subject Matter Analysis with a Perspective on Education and Teachers".

Classification: H49 D39

Keywords: Galois theory; modern algebra; classical algebra; teacher education; subject matter analysis; mathematical knowledge for teaching

doi:10.1007/s13138-016-0099-z