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Engaging students in online collaborative problem solving: two case studies.

Amado, Nélia (ed.) et al., Proceedings of the 12th international conference on technology in mathematics teaching, ICTMT 12. Faro: University of Algarve (ISBN 978-989-8472-68-7). 114-122 (2015).

Summary: This paper presents two case studies of engaging secondary school students in online collaborative problem solving activities. The activities were carried out in two online learning environments. The first one was based on a threaded-discussion asynchronous forum and used inquiry-based tasks in geometry. The second one was based on a social network and used highly-challenging proof tasks in geometry. Both environments were implemented during the school year by the teachers. The findings showed that students were engaged in autonomous and meaningful problem solving activities and for long-term period. The concept of student sense of achievements was used to explain sustained engagement in the activities.

Classification: U50 D50 G40

Keywords: collaborative problem solving; engagement; geometry; online learning environments