

ZMATH 2011d.00158

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Mathematical and didactical enrichment for pre-service teachers: Mentoring online problem solving in the CASMI project.

Mont. Math. Enthus. 8, No. 1-2, 291-318 (2011).

Summary: In order to teach successfully, future teachers should not only be educated about students' conceptions, but also about different forms of knowledge and classroom culture. In our research, we examined whether the participation in the Internet-based challenging problem solving community CASMI contributes to the development of the aforementioned awareness and understanding in order to meet the needs of all students including the gifted ones. The results obtained enabled us to note that the pre-service teachers' perceptions of the project as a source of enrichment are mainly positive. However, analyzing schoolchildren's strategies, the participants preferred to use pre-determined criteria instead of writing personal formative comments adapted to the mathematical reasoning presented in the solution. Research shows that such comments could enrich the feedback by better reflecting the diversity of the learners' styles, thus helping them to reach their full potential. We suggest more attention needs to be given to the analyses of this diversity in pre-service teacher training and professional development in order to enable teachers to differentiate their teaching.

Classification: B50 C40

Keywords: online problem solving; pre-service teacher training; diversity of schoolchildren's strategies; asynchronous assessment; mathematical enrichment