

ZMATH 06675780

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What can you infer from this example? Applications of online, rich-media tasks for enhancing pre-service teachers' knowledge of the roles of examples in proving.

Leung, Allen (ed.) et al., Digital technologies in designing mathematics education tasks. Potential and pitfalls. Cham: Springer (ISBN 978-3-319-43421-6/hbk; 978-3-319-43423-0/ebook). Mathematics Education in the Digital Era 8, 215-235 (2017).

Summary: There is a consensus among mathematics educators that in order to provide students with rich learning opportunities to engage with reasoning and proving, prospective teachers must develop a strong knowledge base of mathematics, pedagogy and student epistemology. In this chapter we report on the design of a technology-based task “What can you infer from this example?” that addressed the content and pedagogical knowledge of the status of examples in proving of pre-service teachers (PSTs). The task, originally designed and implemented with high-school students, was modified for PSTs and expanded to involve multiple components, including scenarios of non-descript cartoon characters to represent student data. The task was administered through LessonSketch, an online interactive digital platform, to 4 cohorts of PSTs in Israel and the US, across 4 semesters. In this chapter we focus on theoretical and empirical considerations that guided our task design to provide rich learning opportunities for PSTs to enhance their content and pedagogical knowledge of the interplay between examples and proving, and address some of the challenges involved in the task implementation. We discuss the crucial role of technology in supporting PST learning and provide an emergent framework for developing instructional tasks that foster PSTs' engagement with proving.

Classification: U79 D49 D59 E59

Keywords: teacher education; reasoning and proof; examples in proving; technology-based task; virtual learning environments

doi:10.1007/978-3-319-43423-0_11