

IN-SERVICE MATHEMATICS TEACHERS' CONCEPTIONS OF REASONING AND PROOF

Mária Slavíčková¹, Jakub Michal², Jarmila Novotná^{2,3}

¹Comenius University in Bratislava, Slovakia

²Charles University, Czech Republic, ³Université de Bordeaux, France

The contribution identifies similarities and differences in conceptions of reasoning and proving (R&P) in school mathematics by Slovak and Czech teachers at lower secondary schools. In both countries, curricula aim to increase pupils' argumentation competencies and critical reasoning skills. One of the factors influencing the inclusion of R&P into mathematics lessons is the teacher's understanding of R&P and its role in mathematics and its education (Knuth, 2002). A questionnaire was prepared with other researchers involved in the MaTeK project (projectmatek.eu). Follow-up semi-structured interviews with in-service teachers focusing on using resources when planning and enacting mathematics lessons were conducted. Both parts of the study comprise questions concerning teachers' use of resources in general and when teaching R&P, conceptions of R&P, and some demographic questions (Cakiroglu et al., 2023). This contribution pays attention to the answers concerning in-service teachers' conceptions of R&P.

MaxQDA was used for open coding and interview analysis. Identified similarities among answers from both countries are (a) in the way R&P is practiced in a classroom (e.g., as problem-solving, description or explanation of procedures, productive talk, seeing the logic behind the steps), (b) beliefs that not all topics are suitable for R&P, (c) that proof is not suitable for some pupils (for different reasons). The differences observed were in socio-mathematical norms. In Slovak answers the teacher explains, justifies, and comments the solutions when R&P task is present (teacher is active). In contrast, Czech respondents consider classroom discussions and knowledge development in groups more beneficial when doing R&P (pupils are active).

ACKNOWLEDGEMENT

This article was written as part of the H2020 project Enhancement of research excellence in mathematics teacher knowledge, acronym MaTeK, no. 951822.

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