SYMPP - (18663) - PLANNING A LESSON TO PROMOTE STUDENTS' MATHEMATICAL REASONING: PRESERVICE TEACHERS' TASKS CHOICES

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Short Abstract

This study was developed in a teacher education course involving 13 Portuguese prospective teachers (PTs) attending the 1st year of a master's program in the teaching of mathematics for middle and secondary school levels, aiming to develop their knowledge about mathematical reasoning (MR) and its teaching.

The study aims to understand the potentiating aspects of students' RM that PTs consider when selecting a mathematical task, framed by a lesson plan. For this purpose, data collection includes the written documents of the five groups of PTs, that comprise the mathematical tasks and lesson plans, and their options rational. An interpretative data analysis was carried out, with the adoption of a framework to describe the tasks' characteristics the PTs have selected.

The results show that PTs select tasks that attain relevant dimensions in association with task design principles to promote MR that have been discussed in the course. Namely, all tasks allow diverse solving strategies and representations and envision at least one MR process. It is also highlighted their intention to lead students to build new mathematical knowledge, based on previous knowledge, and that is compatible with the teaching strategies they outline.

Thus, this study may contribute to support the necessary improvements in the teacher education course, to better develop PTs' knowledge about the potential of tasks to promote students' MR and their proficiency in carry out this skill in their future practices.