

**MATHEMATICS PROBLEMS AND REAL WORLD CONNECTIONS:
HOW POLITICAL IS TOO POLITICAL?**

**PROBLEMAS MATEMÁTICOS Y CONEXIONES CON EL MUNDO:
¿QUÉ TAN POLÍTICO ES DEMASIADO POLÍTICO?**

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In this poster presentation the authors share the results of surveying preservice teachers (PST's) in The United States (US) and Uruguay, with different problem types following Simic-Muller et al. (2015) framework and work. US PST's consistently showed an inclination to family background or community practice problems, and a rejection of issues of injustice problems. Uruguay PST's data is not as clear as US data, but there are some points of contact with the US results.

Keywords: Problem Solving; Social Justice; Teacher Education – Preservice.

Mathematics has long been seen as a separate tool from everyday lives of children, disconnected from social issues. Teachers need to re-discover that connection and exploit it towards the academic and non-academic success of children in and out of school. Most important, teachers need to realize and accept that as Mathematics is a “weapon in the struggle” (Gutstein, 2012), teachers themselves are political actors (Gutierrez, 2013). One effective way to help children see the connection, and help teachers explore this “new” identity, is to teach Mathematics through problem solving. Given that Mathematics it is not a “culture free” content that can be taught in a space “politics free”, then teachers must acknowledge the political power of Mathematics and their own political power, specially as they teach minoritized students. The authors investigate how pre-service teachers respond to different problem types, that even though are all “real life situations”, are more or less committed to show Mathematics as a political tool to understand and change the world.

The questions the authors aim to answer are:

Do elementary pre-service teachers consider using problems for which the context requires an analysis of issues of injustice that may be difficult, but that are part of children’s lives?

What are the explanations pre-service teachers provide to ground their decisions in regard to what contexts are or are not acceptable for teaching mathematics in elementary school?

The authors surveyed 21 US, and 33 Uruguay elementary preservice teachers (PST) taking their first mathematics methods course. The US PST’s belong to the same section on a teacher preparation program located in the South of the United States, and the Uruguayan PST’s belong to the same preparation program in a urban area.

Preservice teachers have strong opinions of what is and is not appropriate for elementary school children when learning mathematics. This is usually based on their understanding of the students. However, with background so different from their students and families, it is not clear how this is helping. They assumed that children would be scared if they “introduce” mathematical contexts like family separation at the border (in the US) or femicide (in Uruguay). They also assume apple picking and soccer would be familiar and liked by the students. Yet we know children are already scared about those difficult topics. It is imperative that the PST’s understand the issues that relate and are important to their students so they can draw on those to teach mathematics. The authors consider this a pilot study, and would like to repeat this experiment with a larger audience to be able to perform statistical analysis of the data. The results also suggests that they should conduct interviews with some of the participating PST’s about their choices and explanations. In addition to that, the

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authors also would like to consistently use cognitively guided instruction (CGI) as a way to control mathematical complexity of problems.

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