

WS7 THE DESIGN AND USES OF CURRICULUM MATERIALS

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Curriculum is an inseparable part of teaching and learning mathematics, both in the sense of the official content topics and the specific materials used in the classroom. Previous studies have shown that both senses of curriculum relate to students' achievement in mathematics. Efforts to improve students' achievement have led to increased interest in examining mathematics curriculum materials from other countries and in producing new curriculum materials. However, many questions remain concerning the effective design of materials and of teachers' uses of curriculum materials and how both of these aspects relate to students' learning. In the past two PME-NA meetings, group discussions were organized to identify relevant issues. This working session is proposed as a means to further discussions by drawing on continued investigation and collaboration on this topic.

The working session will be organized as a two-part activity. During the first part, two researchers will present brief (10 minutes each) overviews of relevant research and our past discussions on two issues: (1) analysis of the design of curriculum materials and their potential relationships with students' achievement, and (2) ways teachers' uses of curriculum materials are viewed both cross-nationally and within an educational system. The participants will join small group discussions for the rest of the session. Based on the two general issues that have been discussed in the first part, the discussion in small groups will begin with the following questions but will follow the interests of the participants:

1. What aspects of the design of curriculum materials are critical for effectiveness in the classroom?
2. What aspects of teacher use of curriculum materials are critical for effectiveness in the classroom?

We hope that these questions will be examined across different nations to help us all step outside of our own culture and experience and develop a broader perspective. After the small-group discussions, all participants will come together to generate a collective summary and synthesis of the small-group discussions. A list of potential research questions will be generated/selected and interested participants will be organized to develop further collaborative research activities on this topic after the meeting.