

## Theme 6 Plenary Lecture

### *Globalization through the Lens of History of Mathematics Education*

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Ysette Weiss is a professor at the Mathematics Department of the University of Mainz (JGU) since 2010. She studied and held academic appointments in various countries — in east and west. In her research activities, she is interested in history of mathematics education and the use of history in mathematics teaching. In particular her focus lies on reforms in the mathematics teaching of the last two centuries. Moreover, she works on concept formation from the perspective of activity theory, subject matter didactics, schoolbook and text analysis, elementary mathematics and learning by discovery.



#### **Abstract:**

Sharing teaching experiences and learning from diverse educational traditions across cultures is a long-standing practice.

The emergence of nation states in the 19th century saw the institutionalization of school systems and corresponding teacher training, leading to the development of national education systems in the subsequent centuries. These systems were shaped by various factors, including economic conditions, military activities, ideological paradigms, and cultural traditions.

Approaches to addressing these divergences of educational systems and ways to teach mathematics have been varied. On the one hand, exchange and cooperation fostered common ground, enabling the understanding of alternative approaches and facilitating comparisons—a bottom-up approach. On the other hand, the internationalization of mathematics education, and this was unique for the school subject mathematics, gave rise to the establishment of international organizations and networks. This top-down approach, exemplified by initiatives like the Meran Reform and the New Math reform significantly influenced mathematics teaching worldwide.

In the history of education, the internationalization of mathematics education is mostly assumed to be progressive, which requires critical examination. As we will show, these narratives can be questioned both by examining historical examples and dialectically interpreting the tension between universality and cultural-historical traditions.