

***Panel Why School Mathematics matter: A Cross-Country (TIMSS)
Examination of Curriculum and Learning***

William SCHMIDT (Coordinator)
College of Education,
Michigan State University USA

ABSTRACT

We will present TIMSS data examining the relationship of curriculum to mathematics learning at the eighth grade. Data from 31 countries will be used to explore through formal statistical modelling the relationship among the three aspects of curriculum and learning. The four aspects of curriculum include measures of a country's content standards, textbook emphases, emphasis on the more complex cognitive demands of materials and the time allocations of the teachers. The dependent variables in the analyses are the gain scores in twenty specific topic areas such as congruence and similarity; functions; and 3-D geometry. By using gain scores the analyses focus on the mathematics that was learned during eighth grade, which then is related to the measures of the eighth grade curriculum. The patterns and relationships that emerge are discussed from a mathematics point of view. A panel of mathematicians from several countries will then discuss the implications of these results both generally and in terms of the perspective of their own countries.

Members of the Panel:

- ***Johann Engelbrecht***, University of Pretoria, South Africa
- ***Curtis McKnight***, University of Oklahoma, USA
- ***Oh Nam Kwon***, Ewha Women's University, Korea
- ***William Schmidt***, Michigan State University USA
- ***Tosun Terzioglu***, Sabanci University, Turkey