

**MAKING SENSE OF MATHEMATICS ACHIEVEMENT IN EAST ASIA: DOES CULTURE
REALLY MATTER?**

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East Asian students have persistently performed well in recent international comparative studies of mathematics achievement such as the IEA Trends in International Mathematics and Science Studies (TIMSS) and the OECD Programme for International Student Assessment (PISA). While various factors have been explored as possible reasons for the superior performance of East Asian students, I have been offering explanations from the perspective of the influence of culture on mathematics teaching and learning, especially the influence of the Confucian Heritage Culture (CHC) which is shared by these high performing East Asian countries. This approach is not without problems, and from time to time, I have been challenged on my cultural explanation. The major problem is the lack of empirical data in support of the explanation, and so, it is argued, the explanation remains speculative. However, in the recent past years, there have been analyses performed on these international large-scale datasets, and the results show some patterns which seem to support a cultural explanation. Another problem is that the explanations I offered were mostly based on the general cultural values of CHC countries, and it is not clear how these values relate specifically to mathematics (rather than general) achievement. One major component of culture related to mathematics learning and assessment which is often neglected in discussions on culture and mathematics education is that of language. Could it be the case that some languages are more effective than others for learning mathematics? Preliminary results of a study that looks into the influence of the English and Chinese languages on students' assessment in mathematics will be reported in this presentation. It is hoped that results of this study, and of the big data analyses mentioned above, will bring new insight into this important issue of the influence of culture on mathematics teaching, learning and assessment in general, and the perplexing phenomenon of the high mathematics achievement of East Asian students in particular.