



The Influence of Language on Mathematics Assessment

Speaker: Frederick K.S. Leung, Kintoy Professor in Mathematics Education, Faculty of Education, The University of Hong Kong

Date: 10 March 2016 (Thursday)

Time: 12:30-2:00 pm

Venue: Room 203 Runme Shaw Building

[Sandwiches will be served with tea and coffee]

Chair: Professor Brendan Weekes

Respondent: Professor Carol Chan



Significant variations have been observed in students' mathematics achievements in international studies of mathematics achievement such as TIMSS and PISA. The ranking of countries in these studies has assumed that once the accuracy of the translation of test items is ensured, items in different languages are essentially measuring the same mathematics knowledge, and the cognitive demands of items in different languages are comparable. Are these assumptions valid?

In this presentation, a project that investigates how the languages of the test may have impacted the performance of Australian and Taiwanese students in TIMSS 2011 will be introduced. Social network analysis is utilized to study the linguistics structure of the TIMSS word problem items in Chinese and in English, and eye-movements tracking is employed to study students' processing of the items in the two languages. Some preliminary findings of the study will be reported. The findings of the study will contribute to how results of international studies should be interpreted.

Frederick Koon-Shing Leung is Kintoy Professor in Mathematics Education of the University of Hong Kong. Professor Leung's area of research is comparative studies of mathematics education, and the influence of culture on mathematics teaching and learning. He is principal investigator of the Hong Kong component of TIMSS, TIMSS Video Study, and the Learner's Perspective Study (LPS). He was appointed a Senior Fulbright Scholar in 2003, awarded the Hans Freudenthal Medal for 2013 by the International Commission on Mathematical Instruction, named a Changjiang Scholar by the Ministry of Education, China, in 2014, and he received the World Outstanding Chinese Award in 2015.

Carol Kwai-Kuen Chan is Professor and Co-Convenor of the Strategic Research Theme on Science of Learning of University of Hong Kong. Her research examines theories of how people learn and pedagogical designs for complex learning. She is Associate Editor of International Journal of Computer-Supported Collaborative Learning and serves on editorial boards of several prestigious journals. With her team, she has won international research awards from American Educational Research Association and International Society of Learning Sciences and she is also a recipient of teaching awards from HKU.

