



Mathematics & Mathematics Education Seminar



28 OCTOBER 2025

TUESDAY – 2 pm to 3 pm



MATH JOURNAL ROOM
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The impact of self-regulated learning on mathematics performance: Insights from East Asian students in PISA 2022

This study examines the relationship between self-regulated learning (SRL) and mathematics achievement among students in six East Asian education systems—Singapore, Korea, Japan, Hong Kong, Macao, and Chinese Taipei—using data from PISA 2022. Grounded in Zimmerman's cyclical model, the research conceptualizes SRL as a multidimensional construct involving conscientiousness, impulse control, distractibility management, and proactive learning behaviors. By situating SRL within East Asia's cultural and instructional contexts, the study explores how collectivist values, teacher-centered traditions, and systemic pressures shape students' regulatory strategies and learning autonomy. Through comparative and quantile-based analyses, it seeks to refine existing SRL frameworks by integrating cultural perspectives and highlighting how self-regulation operates in high-performing yet examination-driven systems. The findings aim to inform culturally responsive educational policies and deepen understanding of SRL as both a cognitive and socio-cultural process in mathematics learning.

Speaker's Biography

Dr. Zhu Yan is an associate professor at the School of Mathematical Sciences, East China Normal University. She received her Ph.D. from National Institute of Education, NTU, Singapore, and has extensive professional experience in Singapore and Hong Kong. Her research interests include educational equity, international comparative studies, assessment and measurement in mathematics education, mathematical modeling, and curriculum and textbook studies. She has contributed to the development of Shanghai's middle school and high school mathematics textbooks and co-authored several English-language academic volumes. Her research has been published in leading international and Chinese journals in mathematics education. Dr. Zhu is a recipient of the Alexander von Humboldt Senior Research Fellowship and the Zhang Dianzhou Award for Mathematics Education.



**Associate Professor
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