



# Constructivist Approaches to Mathematics Education Research



**Dr. Liang Biyao**

Department of Curriculum and Instruction  
The Chinese University of Hong Kong

## Abstract

The radical constructivism epistemology was coined by Ernest von Glasersfeld in 1974 when he was an Assistant Professor at the University of Georgia and was rooted in Immanuel Kant's philosophy and Jean Piaget's theories of learning. In the past 50 years, this epistemology has been influential in educational research, including the endeavor of conceptualizing the nature of mathematics teaching and learning. In this seminar, the speaker will introduce (1) the major tenets of radical constructivism regarding the nature of knowledge and mechanism of knowing, (2) its implications in mathematics teaching, and (3) research methodology emerged from this epistemology. The speaker will also engage audience in concrete and innovative mathematical activities and relevant research data to illustrate how radical constructivism serves as the foundation for the design, implementation, and analysis of a research study.

**Revised**

## Date

**20 October 2021**

**13 October 2021**  
**(Wednesday)**

## Time

**6:30 p.m.**

## Venue

**Room 303,  
Wu Ho Man Yuen  
Building,  
CUHK**

## About the speaker

Dr. Liang Biyao is currently a postdoctoral fellow sponsored by Hong Kong Research Grants Committee's (RGC) Research Fellowship Scheme, supervised by Prof. Ng Oi-Lam at the Department of Curriculum and Instruction of CUHK. She obtained her B.S. in Mathematics at South China Normal University and PhD in Mathematics Education at the University of Georgia. Her research program is at the intersections of mathematical cognition, social interactions, and teacher education. Specifically, her research draws on the radical constructivist epistemology to understand students' and teachers' ongoing constructions of mathematical knowledge through social interactions and to design educational opportunities, tools, and materials that can support learning through interactions. For more details of her work, see her professional website <http://biyaoliang.wixsite.com/math> and her WeChat official account 碧瑤聊数学教育.