



International Conference on Social Sciences in the Modern Era

21 – 23 February 2024

Birmingham, United Kingdom

The Challenges of Teaching Mathematical Modelling: Malaysian Case Study

Riyan Hidayat¹, Ahmad Fauzi Mohd Ayub¹, Harris Shah Abd Hamid², Nurihan Nasir³

¹Universiti Putra Malaysia, Malaysia

²University College MAIWP International, Malaysia

³Universiti Pendidikan Sultan Idris, Malaysia

Abstract

The instruction of mathematical modeling plays a pivotal role in enabling students to understand the construction of mathematical models to address real-world challenges, bolstering their confidence in their mathematical abilities. Therefore, the primary focus of our current case study is to explore challenges of teaching mathematical modeling, specifically within the Malaysian educational landscape. This research adopted a case study methodology, enlisting the participation of five participants in the topic of mathematical modeling. These individuals were purposefully selected, forming a group consisting of three females and two males. Data gathering primarily involved conducting interviews, and the collected data was subsequently subjected to thematic analysis for in-depth examination. The research results revealed that Malaysian educators face difficulties in instructing mathematical modeling due to deficiencies in content knowledge, pedagogical knowledge, assessment methods for mathematical modeling, insufficient student interest, and time constraints. The research implies a need for comprehensive reforms in curriculum design, professional development, assessment practices, and instructional strategies to enhance the effectiveness of mathematical modeling instruction in Malaysia.

Keywords: case study, mathematical modeling, mathematics teacher, modeling challenges

✉ info@ssmeconf.org

🌐 www.ssmeconf.org