

Bridging Culture and Calculations: The Power of Ethnomathematics in Malaysian Mathematics Classrooms

Abstract

One of the objectives of the mathematics curriculum, as stated in the Curriculum and Assessment Standard Document (DSKP) for primary and secondary school mathematics in Malaysia, is to appreciate the uniqueness and beauty of mathematics. Furthermore, data from the Trends in International Mathematics and Science Study (TIMSS) 2023 assessment also shows that students in Malaysia lack confidence in learning mathematics, which ultimately has implications for their mathematics achievement. One approach that is rarely used in mathematics classes is to link the mathematical concepts learned there to the Malaysian multi-racial culture. This combination of mathematics with culture is known as ethnomathematics. This aligns with another objective of the national mathematics curriculum: applying mathematical concepts to real-life situations. In addition to introducing Malaysian culture to current and future generations, the ethnomathematics approach can attract students' interest and increase their curiosity about mathematics. This keynote will discuss learning assisted by the ethnomathematics approach in the classroom, focusing on racial diversity in Malaysia, including the Orang Asli community, especially the Jakun ethnic group in Johor.

Profile

Abdul Halim Abdullah is an Associate Professor at the Faculty of Educational Sciences and Technology, Universiti Teknologi Malaysia (UTM). His specialisation is in mathematics education. His recent research projects focus on vulnerable communities and align with SDG 4: Quality Education. These communities include the Orang Asli and children. His research team has conducted a foundational project on STEM education among Orang Asli children, focusing on how mathematics can be connected to their culture to make learning more meaningful. He also leads a project that is currently developing a learning kit for Orang Asli students, integrating their cultural practices into mathematics learning. Additionally, he led a project for preschool children to develop a busy book that raises early awareness of environmental care. In 2022, he received the prestigious Tokoh Harapan Akademik Bahasa Melayu award from the Ministry of Higher Education (MOHE), and in 2025, the Tokoh Penerbitan (Social Sciences) award from Universiti Teknologi Malaysia. In 2024, he was awarded the Pemenang Utama in the *Magazine Article* category at the national award organised by the Persatuan Sains Matematik Malaysia (PERSAMA). His extensive expertise in mathematics education is evident through his contributions to the development of various books. He is also a frequent speaker at schools, addressing topics related to mathematics education. As a researcher, he has secured fifteen research grants as a Principal Investigator at internal, national, and international levels. In 2019, he was awarded the International Scholar Exchange Fellowship (ISEF) by the Korea Foundation for Advanced Studies (KFAS). In 2023, his edited book titled *Hala Tuju Pendidikan STEM di Malaysia* was recognised as the best-selling title at the Book City Book Award by Book Capital Mall. In 2025, he was also recognised as a Recognised Research Supervisor by the UK Council for Graduate Education (UKCGE).