

## MIXED METHODS STUDY

## A Mixed Methods Investigation into the Pedagogical Adaptation of Singapore Mathematics Textbooks in Nairobi's Private Primary Schools

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### ABSTRACT

The global dissemination of the Singapore Mathematics curriculum, renowned for its focus on mastery and problem-solving, has led to its adoption in diverse educational contexts. There is limited research on how this imported resource is pedagogically adapted by teachers in African private primary school settings. This study aimed to investigate the extent and nature of pedagogical adaptation of Singapore Mathematics textbooks by teachers in Nairobi's private primary schools, identifying the key drivers, strategies, and challenges involved in this process. An explanatory sequential mixed methods design was employed. Phase one involved a survey of mathematics teachers from a stratified random sample of private schools. Phase two comprised in-depth semi-structured interviews and lesson observations with a purposively selected subset of teachers to explicate the quantitative findings. Survey data indicated that 78% of teachers reported making significant adaptations to the textbook content. Thematic analysis revealed a predominant strategy of 'localising context', where teachers replaced Singaporean cultural references with familiar Kenyan scenarios to enhance pupil comprehension and engagement. The study concludes that pedagogical adaptation is a widespread and necessary practice for implementing imported curricula effectively. Teacher agency is central to contextualising learning materials, though often constrained by a lack of structured support. Curriculum developers and school leadership should provide structured professional development focusing on adaptation frameworks. Textbook publishers should consider co-creating region-specific editions with local educators to reduce the adaptation burden. Curriculum adaptation, Singapore Mathematics, textbook use, pedagogical practices, primary education, Kenya, mixed methods This paper provides the first empirical analysis of the pedagogical adaptation mechanisms for an East Asian curriculum within East African classrooms, offering a model for understanding teacher mediation of imported educational resources.

**Keywords:** *Singapore Mathematics, curriculum adaptation, pedagogical translation, private education, Sub-Saharan Africa, mixed methods research, textbook analysis*

#### Article Highlights

- Survey reveals 78% of teachers adapt textbook content significantly
- Primary strategy: replacing Singaporean contexts with Kenyan scenarios
- Teacher agency crucial but constrained by lack of structured

#### Key Finding

Pedagogical adaptation emerges as a widespread, necessary practice for effective implementation of imported curricula in Nairobi's private primary schools.

*This study offers the first empirical analysis of East Asian curriculum adaptation mechanisms in East African classrooms.*

support • Calls for co-created regional editions to reduce adaptation burden	
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