


Chapter 8

Integrating Indigenous Cultural Elements Into Mathematics Instruction: A Case From Southern Philippines

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ABSTRACT

This chapter investigate how cultural elements of the Sama and the Tausug, two ethnolinguistic groups of the Southern Philippines, can be integrated into Grade 7 mathematics lessons. Particularly, the researchers used traditional weaving patterns of Tepo and Pis Siyabit to teach angle pairs. Employing a mixed-methods design, the development process included curriculum mapping, consultations with cultural experts, validation by educators, revisions, and a tryout phase. Data collection involved pre-tests, post-tests, interviews, and a validated checklist. Quantitative analysis used mean, standard deviation, and paired t-tests, while thematic analysis was applied to qualitative data. Findings revealed that the culturally relevant lesson integrating indigenous materials was rated valid across all aspects. Results showed significant improvements in students' mathematical performance. Students' feedback also highlighted increased engagement, cultural relevance, clarity, and cognitive stimulation. The chapter ends with implications for adopting culturally responsive pedagogy in ethnically diverse classrooms.

INTRODUCTION

Multicultural countries like the Philippines often face challenges of providing quality yet inclusive education. The disparity in education achievements may be shaped by the difference in geography, history, and culture, which often resulted in inequitable education access and outcomes among regions and groups. Most often, education in these multicultural contexts emphasizes and promotes mainstream culture over the other indigenous cultures, with curriculum planners making decisions based in national capitals. In the Philippines, the use and promotion of English and Tagalog-based Filipino languages and cultures disadvantage other cultural minority groups, leading to differences in achievement.

The overemphasis on one national language (i.e., Filipino) or international language (i.e., English) and their culture over indigenous culture in public education raises both pedagogical and cultural concerns. However, instead of being seen as barriers, students' native languages and cultures can be utilized as rich resources for teaching and learning. The students' familiarity with the language and contexts can be used to improve their comprehension and understanding of the concepts in subjects like mathematics (Jackaria et al., 2019; Jaudinez & Joaquin, 2024). On the cultural aspects, the emphasis on one dominant culture may disregard the diversity and contribution of many aspects of culture that make up the students and the country's unique identity.

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