

FROM ENGLISH TO FILIPINO: CAN LANGUAGE REFORM TRANSFORM MATH LEARNING IN PHILIPPINE SECONDARY SCHOOLS?

by:

Abegail M. Sabado

Teacher I, Balsik National High School

The language of instruction remains a critical issue in Philippine education, especially in mathematics, where abstraction compounds linguistic complexity. While English has long been the standard medium for teaching math at the secondary level, the implementation of Mother Tongue-Based Multilingual Education (MTB-MLE) in the early grades has prompted renewed debate: Should mathematics in high school also be taught in Filipino? This question is particularly salient in a multilingual society where Filipino, the national language based on Tagalog, is a first language for some but not for all. This essay argues both for and against the use of Filipino as a medium of instruction in mathematics, weighing the benefits of linguistic accessibility and cultural inclusion against the challenges of implementation, terminology, and national readiness.

There is substantial evidence supporting the cognitive benefits of using a familiar language in learning mathematics. A 2025 Philippine study reported that when mathematics was taught in the mother tongue, students exhibited greater engagement, conceptual clarity, and confidence in problem-solving tasks (Bacan, 2025). These benefits align with UNESCO's position that early instruction in a child's home language improves learning outcomes across subjects, including mathematics (UNESCO, 2025). Moreover, bilingual or translanguaging approaches – where Filipino is used alongside English – are already informally practiced in many classrooms. Studies show that strategic code-switching helps students bridge conceptual gaps, making lessons more comprehensible (Bravo-Sotelo, 2020).

Evidence from secondary schools further strengthens the case. A quasi-experimental study revealed that Grade 10 students taught math using both English and Filipino significantly outperformed their peers who received English-only instruction (Cacho et al., 2024). These results suggest that comprehension—not merely fluency in English—underpins math performance, and that Filipino may serve as a cognitive scaffold. Additionally, the use of Filipino validates students' linguistic identities and may foster positive attitudes toward learning, particularly among those who find English intimidating or alienating.

However, there are substantial challenges. Filipino lacks standardized equivalents for many mathematical terms, particularly at the secondary level. Teachers often improvise or revert to English, which may create inconsistency and confusion (Bacan, 2025). Moreover, there is a notable scarcity of instructional materials—textbooks, teacher guides, and visual aids—in Filipino for higher-level math. Without a systematic effort to develop these resources, any shift toward Filipino as a medium could burden teachers and compromise instructional quality.

Another significant concern is teacher preparedness. Most secondary math teachers were trained in English and may lack the proficiency or pedagogical training to teach math in Filipino effectively. This problem is compounded in non-Tagalog regions, where Filipino itself is a second language. In such contexts, using Filipino may not eliminate the language barrier and might instead replace one second language with another.

The effect on students' readiness for tertiary education and global opportunities also warrants attention. English remains dominant in higher education, standardized testing, and STEM fields. A sudden transition to Filipino could create a disconnect between secondary instruction and post-secondary expectations. While research indicates that strong foundational learning in one's first language supports second-language

acquisition (Bularon, 2025), the effectiveness of this transfer depends heavily on strategic implementation and continuous bilingual development.

A more practical and balanced approach is to adopt a structured translanguaging pedagogy. Rather than advocating for exclusive use of Filipino or English, this approach supports the intentional and flexible use of both languages. Teachers can introduce concepts in Filipino for clarity and discussion, while gradually integrating English mathematical terms to prepare students for academic continuity. This model promotes biliteracy and allows learners to develop conceptual understanding without being constrained by language barriers (Bautista et al., 2020).

While the case for using Filipino in teaching mathematics at the secondary level is compelling, particularly in terms of accessibility and inclusivity, it must be approached with caution. Without adequate teacher training, curriculum support, and material development, its implementation could falter. A hybrid approach that builds on the cognitive benefits of the mother tongue while maintaining exposure to English appears to be the most sustainable path forward. This strategy not only bridges the linguistic divide in Philippine education but also prepares students for academic and professional demands in a bilingual society.

References:

Bacan, C. J. D. (2025). Exploring the role of mother tongue in mathematics education: Benefits and challenges of language localization. *International Journal of Research and Innovation in Social Science*, 9(5), 3824–3837. <https://doi.org/10.47772/IJRISS.2025.90400273>

Bautista, J., Samonte, I., Improgo, C. M., & Gutierrez, M. R. (2020). Mother tongue versus English as a second language in mathematical word problems: Implications to language

policy development in the Philippines. *International Journal of Language and Literary Studies*, 2(2), 18–29. <https://doi.org/10.36892/ijlls.v2i2.283>

Bravo-Sotelo, K. P. (2020). Exploring the Tagalog-English code-switching types used for mathematics classroom instruction. *IAFOR Journal of Education: Language Learning in Education*, 8(1), 47–64. <https://doi.org/10.22492/ije.8.1.04>

Bularon, E. D. (2025). Mother tongue-based instruction: Effects on learners' performance. *Sprin Journal of Arts, Humanities and Social Sciences*, 4(2), 47–54. <https://doi.org/10.55559/sjahss.v4i2.472>

Cacho, R., Lladonez, S. A., Villenes, R., Macabuhay, M. R., & Valerio, C. N. (2024). Influence of English and Filipino as assessment languages in word-problem performance. *OKARA: Jurnal Bahasa dan Sastra*, 18(1), 54–70. <https://doi.org/10.19105/ojbs.v18i1.12715>

UNESCO. (2025, February 18). New UNESCO report calls for multilingual education to unlock learning and inclusion. <https://www.unesco.org/en/articles/new-unesco-report-calls-multilingual-education-unlock-learning-and-inclusion>