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Student learning outcomes improve when the language of instruction is phonetically similar to their mother tongue

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Key messages

- In multilingual countries such as Cameroon, children are often taught in a language they do not speak at home. This misalignment hinders early learning, particularly in listening comprehension.
- This study develops a phonetic similarity score to measure how closely a child's home language aligns with the language used in school. The score is based on comparing 164 common words across 15 major Cameroonian languages, which helps to identify language gaps that may impact learning.
- Findings from third-grade students indicate that a greater linguistic similarity between the home language and French or English significantly improves listening comprehension scores.
- The effects are more significant among students in rural areas and those who receive reading support at home.
- The research underscores the importance of addressing linguistic barriers in education policy. A one-size-fits-all approach that overlooks home language realities risks perpetuating inequalities.
- Policy recommendation: Promote policies that account for phonetic similarity between local languages and the LOI, especially in early grades, to boost learning outcomes and equity.

How the Language of Instruction Affects Educational Outcomes in Cameroon

Improving education quality has become a global priority, shifting focus from access to learning outcomes (World Bank, 2018). Although school enrollment has expanded across Sub-Saharan Africa, millions of children still complete primary school without acquiring basic literacy skills (PASEC, 2019). One key barrier is the language of instruction (LOI).

Cameroon, with over 270 living languages (Ethnologue, 2024), is the second most linguistically diverse country in Africa. However, public education is delivered exclusively in French and English, the two official languages inherited from its colonial history. This creates a profound mismatch between the LOI and the language spoken at home by most children, especially in rural areas. Children often begin school without any prior exposure to the LOI, and receive limited support at home due to caregivers' low proficiency in these languages.



Cameroon's dual education system, Francophone and Anglophone, adds further complexity. While it reflects colonial legacies and expands geographic coverage, it does not address language exclusion at school entry. Teachers lack training to manage multilingual classrooms, and learning materials are largely monolingual.

Localized programs like the *Projet de Recherche Opérationnel pour l'Enseignement des Langues au Cameroun* (PROPELCA) and the *Kom Mother Tongue Education Project* have shown gains in retention and reading outcomes when local languages are used in early instruction. Yet these initiatives remain underfunded and absent from national education policy frameworks.

Other African countries, such as Ethiopia, Malawi, and Rwanda, have made strides by incorporating indigenous languages into early education, leading to better literacy outcomes and greater equity (Piper et al., 2016). Cameroon's continued reliance on French and English in foundational years calls for renewed attention. How can a multilingual society ensure that language becomes a bridge rather than a barrier to learning?

This study contributes by quantifying the effect of linguistic misalignment using a phonetic similarity score between home languages and the LOI, and by analyzing its impact on listening comprehension among Grade 3 students.

The study

This study examines whether the intensity of linguistic similarity between the home language and the LOI influences foundational skills, particularly listening comprehension. It draws on data from the 2019 Early Grade Reading Assessment (EGRA), focusing on 459 Grade 3 pupils across eight regions of Cameroon. The dataset was collected by the Ministry of Basic Education in collaboration with international partners and adheres to global standards in early learning assessment. The research design followed a multi-step approach (see text box and Figure 3).

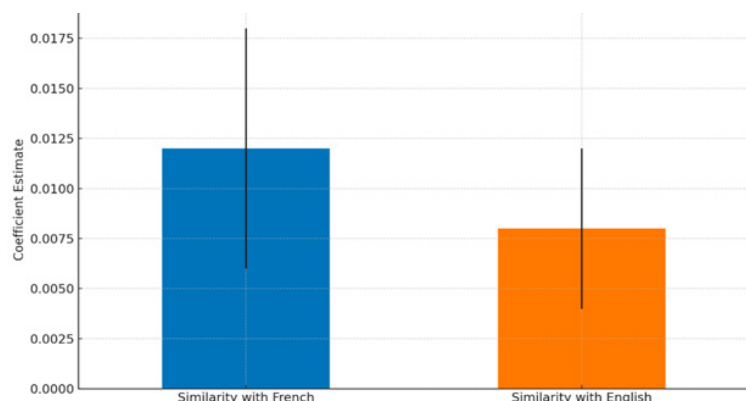


Children running to class. Room

What I Found?

My analysis reveals that children whose home language sounds more similar to the language of instruction perform significantly better in listening comprehension. Specifically, when phonetic similarity increases, students' scores on the EGRA test improve by 0.012 when the language of instruction is French, and by 0.008 when it is English. These improvements correspond to gains of about 3.7% and 2.5%, respectively, relative to the average student performance. While this shift may seem modest, it can represent a meaningful step forward for learners struggling to follow instructions in a language unfamiliar to them. The results highlight the importance of recognizing and integrating the languages children bring from home into early-grade instruction.

Figure 4: Estimated Effect of Phonetic Similarity with French and English on Listening Comprehension



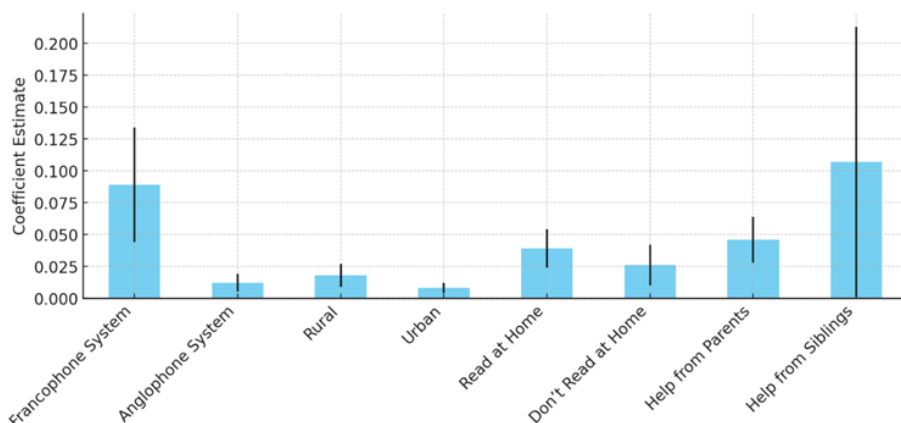
Note: This chart shows that phonetic similarity improves listening comprehension scores. The effect is slightly stronger for French, possibly due to closer alignment with certain local languages. Source: Author's estimates based on regression.

Why It Matters ?

Phonetic similarity is more than a linguistic curiosity, it is a foundation for inclusion. In Cameroon, where most children enter school without prior exposure to French or English, phonetic alignment with the LOI helps them make sense of classroom instruction from day one. It reduces the cognitive burden of decoding unfamiliar sounds and accelerates vocabulary acquisition.

Yet, the benefits of similarity are not equally distributed. As shown in Figure 5, children in rural settings, in the Francophone subsystem, and those supported at home see the greatest gains. These findings highlight a crucial insight: linguistic alignment enhances learning, but only when paired with enabling environments, trained teachers, home support, and adapted resources. Phonetic similarity matters because it can bridge the gap between exclusion and participation especially for the most vulnerable learners.

Figure 5: Heterogeneous Effects of Phonetic Similarity by Education System, Locality, and Home Learning Environment



Note: This figure shows that the benefits of linguistic alignment are amplified in rural and Francophone contexts, and when children receive learning support at home. Source: Author's estimates.

What Can Be Done?

This study offers actionable pathways for improving early-grade learning outcomes in linguistically diverse contexts like Cameroon. The following recommendations build on the evidence and are organized by implementation timeline:

Short-Term Priorities

- Adapt teaching practices to local language realities. Encourage the use of oral scaffolding and phonetic alignment techniques in early-grade instruction, even when using French or English.
- Provide dual-language learning materials. Distribute simple, bilingual readers and visual aids in widely spoken local languages with high phonetic similarity to the LOI.

Medium-Term Priorities

- Train teachers in multilingual pedagogy. Integrate phonological awareness, code-switching, and the Alphabet Général des Langues Camerounaises (AGLC) into teacher training programs.
- Pilot regional language alignment initiatives. Launch targeted interventions in areas with high home-school language mismatch and monitor their impact on learning.

Long-Term Reforms

- Institutionalize regionalized language planning. Enable decentralized education authorities to align instruction with local linguistic profiles and support community-based literacy centers.
- Build a national data and research infrastructure. Regularly update learning assessments and provide open access to data for researchers and decision-makers.

Conclusion

Cameroon's linguistic diversity is not a problem to be managed; it is an opportunity to be embraced. However, to make this diversity a foundation for educational success, policies must respond to the realities of children's linguistic environments. This study shows that phonetic similarity is not an abstract measure; it shapes how children hear, process, and understand in the classroom. Integrating this insight into pedagogy, teacher training, and materials design is a concrete, evidence-based strategy for reducing learning poverty. Ignoring it reinforces exclusion, while acting on it offers all children an equal chance to learn.

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