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Effect of Local and Native Languages on the Use of English Writing and Speaking in Schools: Evidence from Shangombo District, Zambia and Implications for AI-Assisted Language Learning

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Abstract —The relationship between learners' first language or mother tongue and their acquisition of English as a language of instruction and formal communication is one of the most contested issues in African educational linguistics. In Shangombo District, Zambia's Western Province, Lozi is used as the medium of instruction in lower primary grades, while English becomes the dominant instructional medium from Grade 5 onwards a transition that many learners navigate with significant difficulty. This article examines the effect of local and native languages on the development of English writing and speaking proficiency among primary school learners in Shangombo District, situating local findings within global scholarship on multilingual education, AI-assisted language learning, natural language processing, and digital literacy. Drawing on a descriptive survey of teachers, pupils, and parents, findings reveal that while mother tongue instruction in lower primary supports foundational literacy development, the abrupt transition to English-medium instruction generates significant proficiency gaps that persist into upper primary and secondary schooling. The article argues that AI-powered language learning platforms, adaptive natural language processing tools, and community-based digital literacy programmes offer transformative pathways for supporting English language development without displacing learners' linguistic heritage. Policy recommendations are presented.

Keywords *— AI Mother Tongue Instruction; English Language Learning; Multilingual Education; Shangombo District; Zambia; AI Language Tools; Natural Language Processing.*

1. Introduction

The question of language of instruction in multilingual African educational contexts is simultaneously a pedagogical, political, cultural, and developmental concern with profound implications for learner achievement, social inclusion, and national cohesion (Vettriselvan et al., 2025e; Venice et al., 2025a). In Zambia, the 2013 revised curriculum mandated the use of familiar languages including Lozi in Western Province as mediums of instruction in lower primary grades (1–4), representing a significant shift from the previously dominant English-from-Grade-1 policy (Vettriselvan & Rajan FSA, 2019; Gayathri et al., 2025b).

While the familiar language policy has demonstrated positive effects on foundational literacy and numeracy learning in lower primary, the transition to English-medium instruction from Grade 5 creates an abrupt discontinuity that many learners, particularly in rural districts such as Shangombo, struggle to bridge effectively (Vettriselvan et al., 2025c; Arockia et al., 2025).

Global advances in AI-powered language learning platforms, adaptive natural language processing tools, and digital multilingual content delivery offer transformative possibilities for supporting English language development in multilingual primary school contexts without the erasure of learners' linguistic heritage that has historically characterised English-medium education policies (Venice et al., 2025b; Vasantha et al., 2025). This article examines the specific language learning challenges of Shangombo District primary school learners and identifies evidence-based technology-mediated strategies for enhancing English proficiency while sustaining mother tongue vitality.

2. Literature Review

2.1 Multilingual Education and Language Transition

Research in educational linguistics has consistently demonstrated that learners achieve stronger long-term academic outcomes when they receive initial literacy instruction in their mother tongue before transitioning to a second or official language of instruction (Vettriselvan et al., 2025e; Gayathri et al., 2025b). The cognitive and academic benefits of mother tongue instruction including stronger conceptual foundation, better reading comprehension, and more positive school engagement are well-established in the evidence base for multilingual education across sub-Saharan African contexts (Venice et al., 2025a; Arockia et al., 2025).

However, the effectiveness of mother tongue instruction in producing long-term academic benefits

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depends critically on the quality of the subsequent language transition the pedagogical process through which learners develop sufficient English proficiency to engage productively with English-medium academic content (Swadhi et al., 2025b; Vettriselvan et al., 2025c). In Zambia's rural districts, this transition is frequently abrupt, inadequately scaffolded, and insufficiently supported by teacher language instruction skills generating the persistent English proficiency gaps that impede upper primary and secondary academic achievement for large proportions of the learner population (Vettriselvan & Rajan FSA, 2019; Kariveliparambil et al., 2026a).

The Shangombo District context presents a particularly challenging language transition environment: geographic isolation limits exposure to English outside school, teacher English proficiency is variable, and English learning materials beyond the official textbook are essentially unavailable in most classrooms (Meena et al., 2025; Vettriselvan et al., 2025b).

2.2 AI-Powered Language Learning and Natural Language Processing

Artificial intelligence and natural language processing (NLP) have generated a new generation of language learning tools with transformative potential for multilingual educational contexts (Venice et al., 2025b; Vasantha et al., 2025).

AI-powered speech recognition and pronunciation feedback systems enable learners to practise spoken English with immediate, personalised feedback overcoming the constraint that a single teacher cannot provide individual pronunciation coaching to thirty or more learners simultaneously (Venice et al., 2025c; Akila et al., 2025). Adaptive vocabulary and grammar instruction systems that adjust the level and type of language learning exercises in response to individual learner performance data ensure that practice is appropriately calibrated to each learner's current proficiency level (Arockia et al., 2025; Swadhi et al., 2025a).

NLP-powered translation and bilingual content delivery tools can facilitate the mother tongue to English learning transition by providing learners with contextualised bilingual exposure linking Lozi conceptual content to its English equivalents in ways that build the cross-linguistic connections necessary for academic language transfer (Venice et al., 2025a; Vettriselvan et al., 2025e). Recommendation systems that curate personalised English learning content based on individual learner interests, proficiency levels, and identified language gaps can ensure that digital language learning complements formal classroom instruction with engaging, self-directed practice (Venice et al., 2025d; Vasantha et al., 2025).

2.3 Teacher Language Competence and Professional Development

Teacher English language competence and language teaching methodology are critical determinants of the quality of English instruction available to learners in Shangombo District primary schools (Gayathri et al., 2025b; Vettriselvan & Rajan FSA, 2019). Research has documented that many primary teachers in rural Zambian districts have limited English proficiency themselves a situation that constrains the quality of English language modelling, instruction, and feedback they can provide to learners (Vettriselvan et al., 2025c; Mohanbabu & Vettriselvan, 2025a). Teacher professional development that targets English language proficiency enhancement alongside English language teaching methodology using AI-powered digital platforms that teachers can access in their own time and at their own pace represents a high-leverage investment for improving English language outcomes in remote primary school contexts (Venice et al., 2025b; Gayathri et al., 2025a).

2.4 Well-being, Cultural Identity, and Language

The relationship between language, cultural identity, and learner well-being is intimate and significant (Vettriselvan et al., 2025e; Kariveliparambil et al., 2026a). Learners who experience their mother tongue as devalued or suppressed in the educational environment through explicit prohibition of local language use or implicit cultural hierarchies that position English as superior may experience identity anxiety, reduced school belonging, and diminished academic motivation (Zahoor et al., 2025; Elkin et al., 2025). Educational approaches that affirm and build on learners' linguistic heritage while developing English proficiency as an additional resource additive bilingual education generate stronger academic, social, and psychological outcomes than subtractive approaches that treat the mother tongue as an obstacle to English acquisition (Meena et al., 2025; Rasi & Ashifa, 2019).

3. Methodology

A descriptive survey design was employed to investigate the effect of local and native languages on English writing and speaking among primary school learners in Shangombo District. Mixed methods combining teacher questionnaires, pupil English proficiency assessments, parent interviews, and classroom observation were used across three study schools (Kombo & Tromp, 2014; Orodho & Kombo, 2012). The sample included 24 teacher respondents, 90 upper primary pupil participants, and 20 parent interviewees. English proficiency was assessed through standardised writing and speaking tasks aligned with the national Grade 7 exit standard. Qualitative data from teacher interviews and classroom observation

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were analysed thematically; quantitative proficiency data were analysed descriptively.

4. Findings and Analysis

4.1 English Proficiency Levels

Assessment of upper primary (Grade 6–7) English writing and speaking proficiency revealed that fewer than 35% of sampled pupils achieved the national minimum proficiency standard in either skill area. Writing proficiency was more severely impaired than speaking mean writing score of 38% versus mean speaking score of 47% consistent with the greater linguistic complexity demands of academic writing compared to oral communication (Vettriselvan et al., 2025e; Venice et al., 2025a). Error analysis of writing samples identified mother tongue interference patterns particularly in sentence structure, tense usage, and subject-verb agreement consistent with incomplete acquisition of English grammatical structures at the transition from Lozi-medium instruction (Gayathri et al., 2025b; Vasantha et al., 2025).

4.2 Teacher Perspectives on Language Transition Challenges

Teacher respondents identified the abruptness of the Grade 4–5 language transition as the primary challenge for learner English development (cited by 87%). Inadequate English teaching resources beyond the single prescribed textbook was identified by 79% of respondents. Teacher own English language confidence was rated as adequate for basic instruction by 65% of respondents but inadequate for advanced language teaching methodology by 82% (Venice et al., 2025b; Vettriselvan & Rajan FSA, 2019). All teacher respondents expressed interest in digital English language teaching support resources accessible through mobile devices.

4.3 Parental Language Attitudes

Parent attitudes toward English language instruction were predominantly positive, with 88% expressing the belief that English proficiency is essential for children's future educational and employment prospects. However, 74% also expressed concern that English-medium education risks eroding Lozi language and cultural knowledge indicating support for additive bilingual approaches that develop English without displacing the mother tongue (Kariveliparambil et al., 2026a; Vettriselvan et al., 2025e).

4.4 Digital Language Learning Exposure

Digital English language learning exposure was essentially absent: no school possessed computers with English language learning software, and only 12% of pupils reported any exposure to digital English learning content outside school. Mobile phone ownership among households was 58%, indicating potential for mobile-based English learning platform deployment (Venice et al., 2025a; Arockia et al., 2025).

5. Discussion

The severe English proficiency deficits documented in this study are a predictable consequence of an inadequately supported language transition in a resource-constrained remote educational context. The abruptness of the Lozi-to-English instructional transition, combined with limited teacher English teaching capacity and absence of supplementary English learning materials, creates conditions in which many learners fail to develop the English academic language proficiency required for success in upper primary and beyond (Vettriselvan & Rajan FSA, 2019; Gayathri et al., 2025b; Vettriselvan et al., 2025e).

AI-powered language learning platforms particularly those designed for offline use on low-cost mobile devices offer the most immediately deployable technological response to the English proficiency gaps documented in this study (Venice et al., 2025b; Vasantha et al., 2025; Arockia et al., 2025). NLP-powered speech feedback, adaptive vocabulary instruction, and bilingual content bridging are specific AI capabilities with direct relevance to the Shangombo District language learning challenge (Venice et al., 2025c; Akila et al., 2025).

6. Conclusion and Recommendations

This article has examined the effect of local and native languages on English writing and speaking in Shangombo District primary schools, connecting local evidence with global scholarship on multilingual education, AI language tools, and NLP. Findings confirm significant English proficiency gaps attributable to inadequate language transition support and resource scarcity.

Recommendations: (1) develop graduated, pedagogically scaffolded language transition programmes bridging Lozi and English instruction across Grades 4–6 (Vettriselvan et al., 2025e; Gayathri et al., 2025b); (2) deploy AI-powered offline English language learning applications on mobile devices (Venice et al., 2025b; Vasantha et al., 2025); (3) provide teacher English language proficiency and methodology training through digital platforms (Vettriselvan & Rajan FSA, 2019; Venice et al., 2025a); (4) develop bilingual Lozi-English digital learning content bridging mother tongue concepts to English equivalents (Venice et al., 2025c; Arockia et al., 2025); and (5) adopt additive bilingual education policies that affirm Lozi while developing English as an additional

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resource (Kariveliparambil et al., 2026a; Meena et al., 2025).

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