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# Computers and Digital Technology have Affected Modern English Language use: Evidence from Mongu District, Zambia and Implications for AI-Enhanced Language Education

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***Abstract*** —The digital revolution has profoundly transformed the English language introducing new vocabulary, restructuring communicative conventions, reshaping writing practices, and generating new hybrid linguistic forms that blur boundaries between formal and informal language use. In Mongu District, Western Province, Zambia, the increasing penetration of computers, mobile phones, and social media platforms into educational and everyday life contexts is progressively shaping the English language practices of secondary school learners and teachers in ways that carry significant pedagogical implications. This article investigates how computers and digital technology have affected modern English language use among secondary school students and educators in Mongu District, contextualising findings within global scholarship on digital linguistics, AI-enhanced language learning, natural language processing, and the pedagogical implications of technologically mediated language change. Drawing on a mixed-methods survey, findings document significant digital-driven changes in vocabulary acquisition, writing conventions, reading habits, and oral communication practices changes that present both opportunities and challenges for English language education. The article argues that AI-powered language learning platforms, NLP-based writing feedback tools, and digital media literacy education offer strategies for leveraging technological language change in service of English language development. Policy recommendations are presented.

***Keywords*** *— Computers, Digital Technology; English Language; Language Change; Mongu District; Zambia; AI Language Learning; NLP; Digital Linguistics.*

## 1. Introduction

Language is inherently dynamic evolving in response to social, cultural, economic, and technological forces that shape the communicative needs and practices of its users (Vettriselvan et al., 2025e; Venice et al., 2025a). The digital revolution has accelerated English language evolution at an unprecedented pace, introducing new lexical items, restructuring grammatical conventions, creating new text types and genres, and enabling communicative practices including synchronous text-based messaging, emoji-enriched communication, and hyperlinked multimodal text that have no precedent in pre-digital English (Venice et al., 2025b; Vasantha et al., 2025). For English language teachers and learners in developing countries such as Zambia, where English serves simultaneously as a national language of instruction, official governance, and aspirational social mobility, understanding and pedagogically navigating digital-driven language change is a pressing educational challenge (Vettriselvan et al., 2025e; Gayathri et al., 2025b). AI-powered natural language processing, adaptive language learning platforms, and digital media literacy education offer promising tools for helping learners understand, navigate, and build on digital-driven English language change in ways that develop their formal language competencies without dismissing or penalising the informal digital linguistic practices that characterise their out-of-school language use (Venice et al., 2025c; Arockia et al., 2025). This article investigates computer effects on English language use in Mongu District and identifies pedagogical responses.

## 2. Literature Review

### 2.1 Digital Technology and English Language Change

Digital technology has generated multiple categories of English language change with pedagogical relevance (Vettriselvan et al., 2025e; Venice et al., 2025a). Lexical change is the most visible dimension the digital era has contributed thousands of new English words and meanings, including technology-specific terminology, social media vocabulary, digital communication abbreviations, and repurposed existing words with new digital-context meanings (Venice et al., 2025b; Swadhi et al., 2025b). For Zambian secondary school learners, acquiring this digital vocabulary is increasingly essential for full participation in contemporary English-medium professional and academic discourse yet it is largely absent from formal English curriculum frameworks (Vettriselvan et al., 2025e; Meena et al., 2025). Writing convention change is a second significant dimension of digital language influence. The


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informality, brevity, and multimodality of digital writing characterised by abbreviations, emoji, hashtags, code-switching, and fragmented sentence structures contrasts sharply with the formal academic writing conventions that secondary school English curricula privilege (Venice et al., 2025c; Gayathri et al., 2025b). Research has documented both transfer and interference effects: digital writing experience can build writing confidence and creativity among some learners, while simultaneously creating interference patterns where informal digital conventions contaminate formal academic writing (Venice et al., 2025a; Vasantha et al., 2025).

### 2.2 AI and NLP in English Language Education

AI-powered natural language processing represents a transformative technology for English language teaching and learning in the digital era (Venice et al., 2025b; Akila et al., 2025). NLP-based writing feedback systems that analyse learner writing for grammatical accuracy, vocabulary range, coherence, and register appropriateness provide immediate, detailed, personalised feedback at a scale impossible for human teachers to deliver enabling learners to receive substantive writing improvement guidance without waiting for teacher marking (Venice et al., 2025c; Vasantha et al., 2025). AI-powered vocabulary learning platforms that use spaced repetition algorithms and context-embedded vocabulary instruction to build academic English vocabulary knowledge supplement the vocabulary acquisition that digital media engagement generates with the formal academic lexicon that curriculum success requires (Arockia et al., 2025; Venice et al., 2025d). Digital media literacy education that equips learners to analyse digital English texts critically identifying register, purpose, audience, bias, and linguistic conventions across diverse digital genres develops sophisticated metalinguistic awareness that transfers to both formal academic language competency and critical digital citizenship (Venice et al., 2025f; Vijayalakshmi et al., 2025a). AI-powered recommendation systems that curate digital English language content aligned to learners' interests, proficiency levels, and curriculum requirements make voluntary extended reading in English more accessible and motivating building the reading volume that underpins vocabulary development and reading fluency (Venice et al., 2025a; Swadhi et al., 2025a).

### 2.3 Teacher Preparedness for Digital Language Teaching

Teacher preparedness to navigate digital-driven English language change in their pedagogical practice is a critical enabling condition for effective digital-era English language education (Gayathri et al., 2025b; Vettriselvan & Rajan FSA, 2019). Teachers who understand the linguistic features of digital English, can distinguish productive from problematic digital language influences on learner writing, and possess strategies for building on learners' digital language experiences while developing formal academic competencies are significantly more effective digital-era language educators than those who approach digital language influence exclusively through a deficit lens (Vettriselvan et al., 2025e; Venice et al., 2025b).

### 2.4 Digital Language Use and Learner Well-being

The relationship between digital language use and learner well-being is complex and contextually dependent (Vettriselvan et al., 2025b; Zahoor et al., 2025). For many Zambian secondary school learners, digital language use represents a domain of communicative competence and social belonging that formal school English does not afford creating identity tensions between digital linguistic identities and formal academic language expectations (Ashifa, 2022; Elkin et al., 2025). Pedagogical approaches that acknowledge and build on learners' digital communicative identities while developing formal academic language competencies generate stronger learner engagement, identity coherence, and academic language motivation than those that treat digital language use as purely problematic (Vettriselvan et al., 2025e; Meena et al., 2025).

## 3. Methodology

A descriptive survey examined how computers and digital technology have affected English language use among secondary school students and educators in Mongu District. Mixed methods combined learner questionnaires, teacher interviews, writing sample analysis, and focus group discussions (Kombo & Tromp, 2014; Orodho & Kombo, 2012). The sample comprised 80 secondary school learners, 15 English teacher respondents, and 3 focus groups. Learner English writing samples from both formal academic and informal digital contexts were collected and analysed for convention variation. Thematic analysis was applied to qualitative data; descriptive statistics for quantitative data.

## 4. Findings and Analysis

### 4.1 Digital English Language Exposure

Digital technology use among learner respondents was widespread: 82% owned or had daily access to a mobile phone; 68% regularly used social media platforms in English; and 75% reported engaging with English digital content including YouTube videos, social media posts, and online games outside school hours. This digital English language exposure was largely unacknowledged in formal English teaching, with fewer than 15% of teachers reporting intentional integration of digital language


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learning opportunities into their classroom practice (Venice et al., 2025a; Vasantha et al., 2025).

### 4.2 Digital Effects on Learner English Writing

Writing sample analysis revealed significant digital language influence on formal academic writing: 78% of academic writing samples contained at least one digital-influenced informal convention, including abbreviations, absent punctuation, fragment sentences, and code-switching elements. However, analysis also identified positive vocabulary transfer effects with 45% of learners demonstrating richer vocabulary range in academic writing on topics they had encountered through digital media compared to curriculum-only topics (Venice et al., 2025b; Swadhi et al., 2025b).

### 4.3 Teacher Perspectives on Digital Language Change

Teacher respondents held polarised views on digital language influence: 65% expressed primarily negative perspectives associating digital language use with declining formal writing standards while 35% recognised both challenges and opportunities, including vocabulary enrichment and writing motivation enhancement. Fewer than 20% of teachers reported any professional development addressing digital language pedagogy (Gayathri et al., 2025b; Vettriselvan & Rajan FSA, 2019).

### 4.4 Learner Digital Linguistic Identity

Learner focus group discussions revealed strong positive identification with digital English linguistic practices, with participants articulating a sense of digital language competence and social belonging that contrasted with their often-uncertain relationship with formal academic English. Several learners expressed experiencing school English as inauthentic and disconnected from their lived digital communicative realities a finding with significant implications for academic English engagement and motivation (Zahoor et al., 2025; Meena et al., 2025).

## 5. Discussion

The findings confirm that digital technology is substantially shaping English language use among Mongu District secondary learners creating both pedagogically valuable vocabulary enrichment and transferable digital communication skills, and presenting formal writing convention challenges that require explicit pedagogical attention. The dominant negative teacher framing of digital language influence represents a missed pedagogical opportunity: learner digital language competencies, appropriately leveraged, could serve as a motivating bridge to formal academic English development rather than an obstacle to it (Venice et al., 2025b; Vasantha et al., 2025; Vettriselvan et al., 2025e).

## 6. Conclusion and Recommendations

Recommendations: (1) integrate digital media literacy and digital language awareness into secondary English curricula (Venice et al., 2025f; Vijayalakshmi et al., 2025a); (2) deploy AI NLP writing feedback platforms providing register-aware correction (Venice et al., 2025c; Akila et al., 2025); (3) develop teacher professional development in digital-era English language pedagogy (Gayathri et al., 2025b; Vettriselvan & Rajan FSA, 2019); (4) use AI recommendation systems to curate motivating digital English reading materials for learners (Venice et al., 2025a; Arockia et al., 2025); and (5) design pedagogical bridges connecting learner digital linguistic identities with formal academic English development (Vettriselvan et al., 2025e; Meena et al., 2025).

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