

Morphological Processing in ESL Writing: Effects of Genre, Proficiency, and First Language Background

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This study examines morphological processing in English as a second language (ESL) writing across genres, proficiency levels, and first-language (L1) backgrounds. Morphological processing is central to second language (L2) writing development because it supports lexical sophistication, syntactic complexity, and information density, particularly in academic discourse [1–8]. Nevertheless, L2 learners often experience difficulties with both inflectional and derivational morphology, including omissions, overgeneralizations, substitutions, and inconsistent morpheme use [9–13]. These challenges reflect not only developmental constraints but also limitations in morphological decomposition and rule application during real-time language production [3, 14, 15].

Corpus-based methods provide a robust framework for examining multiple dimensions of morphological processing in authentic L2 learner texts [15–17]. Such research has shown that L2 morphological production is shaped by several factors, including first language (L1) morphological structure, L2 proficiency, and genre. Cross-linguistic differences between L1 and L2 morphology can contribute to inflectional errors and incorrect derivational forms [13, 15, 18–21]. Proficiency effects are well documented: lower-proficiency learners tend to show limited inflectional accuracy and minimal derivational use, whereas more advanced learners produce more diverse and sophisticated morphological forms [2, 10–12, 16]. Genre also shapes morphological choices due to differences in cognitive and communicative demands [22]. Academic and argumentative texts typically involve greater use of nominalizations and derivational morphology than narrative or informal genres [22].

Despite these insights, relatively little research has examined how L1 background, proficiency, and genre jointly shape morphological processing in L2 writing. This study addresses this gap by analyzing morphological accuracy and complexity in a large, multilingual learner corpus, offering a comprehensive account of how learners deploy morphological resources under varying communicative and cognitive demands.

The corpus comprised 2,296 texts produced by 1,148 ESL learners across four CEFR proficiency levels (B1–C2) and eleven L1 backgrounds representing diverse writing systems and morphological typologies (analytic, fusional, and agglutinative). Each learner completed both a narrative and a persuasive writing task. Automated analyses, using the Tool for Automatic Measurement of Morphological Information (TAMMI) [23], generated fine-grained indices of morphological production, including inflectional and derivational token counts, affix diversity, root and affix family size, hapax-based measures, complexity indices, and rates of morphological error (e.g., tense, possessive), all normalized by content words. Mixed-effects models were used to test main and interaction effects of proficiency, L1, and genre.

Results indicated strong proficiency effects on inflectional complexity and morphological accuracy, with higher-proficiency learners demonstrating greater inflectional richness and fewer errors, suggesting more efficient morphological processing. L1 background significantly influenced morphological diversity, derivational complexity, and morphological accuracy, consistent with cross-linguistic transfer effects. Genre effects revealed greater morphological complexity in persuasive texts than in narratives, reflecting genre-specific processing demands. Finally, inflectional richness, root frequency, and morphological accuracy were positively associated with writing quality. Together, these findings contribute to research on L2 morphological and word processing by demonstrating how proficiency, cross-linguistic factors, and genre interact to shape morphological processing in L2 writing.

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