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Consonant Articulation and Lexical Stress in Georgian EFL Learners: Phonological Patterns and Pedagogical Implications

ABSTRACT

This study investigates segmental and suprasegmental pronunciation challenges encountered by Georgian learners of English as a Foreign Language (EFL), focusing on consonants, and stress. Adopting a mixed-methods approach, it combines IPA-based audio analysis, frequency tracking, and learner surveys to explore both observed difficulties and students' perceptions of their underlying causes.

Data were collected from 30 B1-level first-year university students enrolled in a Practical Phonetics course at Tbilisi State University during the 2024 Fall–2025 Spring academic year. The analysis reveals systematic inconsistencies in consonant production. Frequent consonantal issues are most commonly manifested through interdental fricative substitution, /v/–/w/ confusion, final consonant devoicing, and misarticulation of English /r/, largely influenced by the Georgian trilled /r/.

The findings suggest that these patterns stem primarily from L1 transfer, orthographic interference, and restricted exposure to authentic English input. Grounded in Second Language Acquisition (SLA) frameworks—specifically Flege's Speech Learning Model and the Orthographic Interference Hypothesis—the study proposes pedagogical strategies emphasizing explicit pronunciation instruction and phonological awareness within communicative EFL contexts.

Keywords: Georgian EFL learners, Pronunciation challenges, Vowels, consonants, and stress, L1 transfer and orthographic interference, Pronunciation pedagogy.

Introduction

In the era of English as a *lingua franca*, a foreign accent can be viewed as a marker of global engagement and communicative courage rather than a sign of insufficient proficiency. Yet in the English as a Foreign Language (EFL) classroom, that courage often collides with moments of communication breakdown. Pronunciation errors—although a natural part of second language development—can obscure meaning, hinder intelligibility, and diminish learners' confidence and communicative effectiveness.

Contemporary EFL pedagogy increasingly positions pronunciation as an essential dimension of communicative competence rather than an optional or peripheral skill (Celce-Murcia et al., 2010). For Georgian learners of English, persistent pronunciation challenges stem largely from structural

contrasts between the two phonological systems. Georgian lacks several features that are central to English consonant production (e.g., interdental fricatives and the /w/–/v/ distinction) and employs a different stress pattern and rhythmic organization. As a result, learners frequently exhibit recurrent consonantal substitutions, segmental deviations, and difficulties with lexical stress placement.

This paper focuses specifically on consonant articulation and lexical stress among Georgian EFL learners. It identifies recurrent phonological deviations, interprets them through the lens of L1 transfer and phonotactic constraints, and offers pedagogical recommendations aimed at enhancing learners' intelligibility and communicative competence in multicultural contexts. More specifically, the study aims to: (1) identify common segmental and suprasegmental errors—particularly those involving consonant production and lexical stress; (2) document these patterns using the International Phonetic Alphabet (IPA); (3) examine the potential causes and phonetic implications of these errors by drawing on major theories of second language acquisition (SLA), cross-linguistic comparison between Georgian and English, and selected learner self-reports collected through a survey on perceived sources of difficulty; and (4) propose practical, empirically informed, and theoretically grounded recommendations for fostering phonetic fluency.

Literature Review

Phonological Implications and Theoretical Perspectives

According to a wide body of SLA research, pronunciation development is shaped by interactions among pedagogical practices, L1–L2 phonological contrasts, cognitive constraints, and sociocultural conditions. Within communicative approaches to language teaching, pronunciation has traditionally received limited explicit focus. Although Communicative Language Teaching (CLT) aims to promote fluency and meaningful interaction, it has often marginalized systematic phonological instruction (Celce-Murcia, Brinton, & Goodwin, 2010; Levis, 2005). As a result, learners may develop functional communicative skills while retaining persistent segmental errors or inaccurate word stress patterns that hinder intelligibility (Derwing & Munro, 2015).

The Contrastive Analysis Hypothesis (Lado, 1957) remains influential in explaining phonological transfer, particularly when L1–L2 differences are substantial. Modern phonological theories, including Best's (1995) Perceptual Assimilation Model and Flege's (1995) Speech Learning Model, further demonstrate that learners assimilate unfamiliar L2 sounds to the closest L1 categories, resulting in predictable substitution patterns. Against this background, for Georgian learners, the absence of English interdental fricatives, aspiration contrasts, and the /w/–/v/ distinction increases the likelihood of transfer-based misarticulations unless instruction makes these contrasts salient.

Sociocultural Theory (Vygotsky, 1978) provides a complementary lens, emphasizing that phonological restructuring emerges through socially mediated interaction. Studies on corrective feedback (Lyster & Ranta, 1997) and interactionist SLA (Long, 1996) show that negotiation of form, scaffolding, and exposure to proficient models are essential for improving learners' pronunciation. Limited interaction—common in EFL settings—reduces opportunities to receive modified input or feedback on both segmental accuracy and suprasegmental features such as lexical stress (Saito & Lyster, 2012).

Psycholinguistic perspectives clarify how phonological knowledge is processed andautomatized. Skill Acquisition Theory (DeKeyser, 1997; Anderson, 1983), supported by Flege's (2003) phonetic learning research, argues that repeated, meaningful practice is required for learners to proceduralize new articulatory routines. Without sustained practice, learners rely heavily on declarative knowledge (rules about pronunciation) rather than automatized production, resulting in inconsistent or unstable phonological output.

Interlanguage Fossilization Theory (Selinker, 1972; Han, 2004) further explains why inaccurate pronunciation forms can become stabilized. Fossilization is particularly common in contexts where learners receive limited feedback or where intelligibility is minimally compromised, allowing incorrect forms to persist. Research in L2 phonology has shown that fossilized segmental and suprasegmental patterns can be resistant to change without targeted, high-quality instructional intervention (Major, 2001).

Another key factor influencing phonological development is orthographic interference. The Orthographic Interference Hypothesis (Bassetti, 2008; Bassetti & Atkinson, 2015) posits that learners rely on L1 reading strategies when interpreting L2 grapheme–phoneme correspondences. For speakers of languages with transparent orthographies, this may lead to mispronunciations based on English spelling irregularities, contributing to inaccurate vowel quality, consonant substitutions, and misplaced stress (Rastelli, 2018). Such interference is particularly salient for Georgian learners, whose native orthography is highly phonemic.

Overall, research and classroom evidence suggest that the persistent difficulties EFL learners face with consonant articulation and lexical stress stem from a complex interplay of factors, including instructional practices, the phonological distance between the L1 and L2 languages, cognitive processing constraints, limited opportunities for interaction and feedback, and the influence of English orthography.

Against this background, despite the growing body of research on L2 pronunciation, there remains a notable gap in studies that examine how these theoretical perspectives converge in the

context of Georgian EFL learners, particularly with respect to consonant articulation and lexical stress. Existing studies on Georgian learners tend to focus broadly on segmental errors or general pronunciation challenges, but they rarely integrate insights from contrastive phonology, sociocultural interaction, cognitive skill development, and orthographic influence into a unified analysis. Moreover, few empirical investigations document how these factors interact in real classroom settings, where limited exposure, insufficient corrective feedback, and CLT-driven instructional practices shape learners' phonological development. As a result, the field lacks a comprehensive, evidence-based description of the specific phonological patterns Georgian learners produce and the theoretical mechanisms underlying them. The present study seeks to address this gap by systematically analyzing recurrent consonant and stress-related deviations and interpreting them through an integrated, multi-theoretical lens.

Methodology

Participants and Setting

The study was conducted at **Tbilisi State University**, within the English Philology Programme. Participants included **30 Georgian undergraduate students** enrolled in a **Practical Course of Phonetics**. All participants shared a comparable educational background, having completed secondary education and achieved at least **A2 level** in English proficiency according to national standards.

Data Collection

Data were collected over 28 classroom sessions spanning two academic semesters (Spring 2024–Fall 2025). During these sessions, each student read aloud or retold an assigned text of approximately 150–160 words, yielding a total of roughly 840 minutes of recorded observation.

Research Instrument

A researcher-designed phonetic observation checklist was employed, adapted from the framework proposed by Celce-Murcia et al. (2010). The checklist captured the following dimensions:

- Consonant articulation errors, including inaccuracies in voicing, place and manner of articulation, consonant-cluster simplification, and recurrent substitution patterns;
- Word stress deviations, such as incorrect placement of primary stress and the overgeneralization of initial or final stress patterns;
- Error frequency, categorized as infrequent (<5 occurrences), moderate (5–10 occurrences), or frequent (>10 occurrences).

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In addition, a survey questionnaire was administered to the same participants to assess their self-awareness and reflections regarding the potential causes of their pronunciation errors. All procedures were conducted in accordance with institutional ethical standards, and informed consent was obtained from all participants prior to data collection.

Results

Consonantal Mispronunciations

Table 1

Consonantal Mispronunciations Among Georgian EFL Learners

Error Type	Description and Realizations	Examples (IPA)	Frequency Category	L1/SLA Explanation
Interdental fricative substitution	/θ/ realized as /t/ or /s/; /ð/ realized as /d/ or /z/	*think → tɪŋk*; *sunbathe → /ˈsʌnbeɪs/* ; ***Thousand → /ˈtaʊ-zənd/; Author- → /au tːə/; Rhythm- → /ˈrɪtəm/;*** *Amazing → /əˈmeɪ ðɪŋ/*	Frequent (>10)	Absence of interdental fricatives in Georgian; L1 transfer
Reverse substitution *voiceless alveolar fricative into voiceless interdental fricative or * voiced alveolar fricative into voiced interdental fricative	s/ → /θ/ and /z/ → /ð/	*music, seen singer, cause → /ˈmjuːˌθɪk/, /θiːn/, /ˈθɪŋ.ər/, /kɔːθ/,*	Moderate–frequent (5-10)	L1 transfer combined with articulatory unfamiliarity, sometimes reinforced by phonetic overgeneralization.
Cluster simplification	Reduction or deletion of initial interdental clusters (e.g., /θr/, /θw/, /θl/)	*three → triː; author → ɔːtə*	Frequent (>10)	Georgian phonotactic constraints; cluster reduction
/w/–/v/ confusion	Reciprocal substitution of /w/ and /v/	*warm → vɔːm*; *very → wɛri*	Moderate–frequent (5-10)	Lack of /w/ phoneme; category assimilation (Flege, 1995)
Orthographic/graphemic	<ph> pronounced	*phone → pʰoʊn*	Moderate	Orthographic

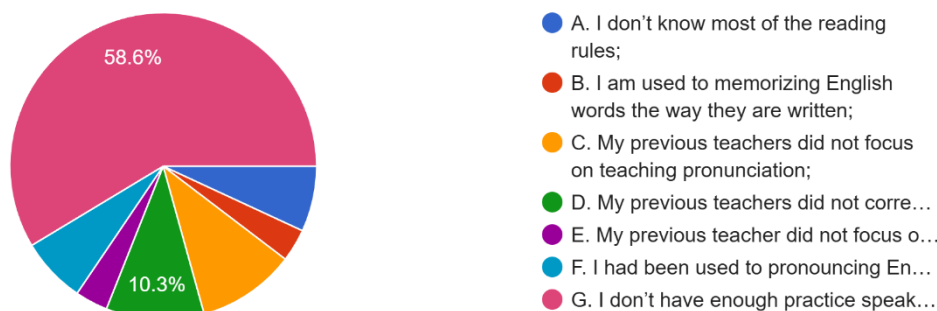| Error Type	Description and Realizations	Examples (IPA)	Frequency Category	L1/SLA Explanation
influence	as /p/ or /pʰ/ instead of /f/	*Phoneme→ pʰoni:m*	(5-10)	interference; grapheme–phoneme mismatch
Final devoicing	Word-final voiced obstruents devoiced	*dogs → dɒgs → dɒks* *Trees→tri:s*	Moderate (5-10)	Transfer of Georgian final devoicing rule
Rhotic misarticulation	English /ɹ/ produced as a trill or tap /r/	*red → rɛd* (tapped/trilled)	Frequent (>10)	L1 articulatory habits; lack of approximant /ɹ/ in Georgian

Suprasegmental Stress Errors

Table 2

Suprasegmental Stress Errors Among Georgian EFL Learners

Error Type	Examples	Description / Phonetic Evidence	Frequency / Impact
Initial Stress Overgeneralization	*development, employee, success*	Words were frequently produced with stress on the first syllable instead of the canonical stress position (e.g., ˈdevelopment → deˈvelopment).	Occurred frequently (>10 instances per learner); contributed to unnatural speech rhythm.
Final Stress Overgeneralization	*record, import, insult*	Verbal forms typically stressed initially were pronounced with final stress (e.g., ˈrecord → reˈkord), indicating incomplete understanding of noun–verb stress alternation.	Occurred frequently (>10 instances per learner); disrupted natural prosody.
Overall Suprasegmental Impact	—	Stress misplacement led to syllable-timed rhythm rather than stress-timed, reducing comprehensibility and naturalness.	Occurred frequently (>10 instances per learner); speech sounded monotone and rhythmically unnatural.

Analysis of Survey Results: Student-Reported Factors Affecting Pronunciation and pedagogy

The following survey asked participants to select the main reason for their pronunciation mistakes in English.

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Please, choose the best option suitable for you to complete the given statement I often make pronunciation mistakes in English, because

29 responses

- A. I don't know most of the reading rules;
- B. I am used to memorizing English words the way they are written;
- C. My previous teachers did not focus on teaching pronunciation;
- D. My previous teachers did not corre…
- E. My previous teacher did not focus o…
- F. I had been used to pronouncing En…
- G. I don't have enough practice speak…

Figure 1: Student-Reported Factors Affecting Pronunciation and pedagogy

Note. Data are based on self-reports from 30 Georgian EFL learners regarding factors influencing their pronunciation skills and classroom pedagogy.

As seen from the figure 1, the responses reveal the following patterns: **Lack of practice is the primary factor:** The majority of respondents (58.6%) (n=17) indicated that *"I don't have enough practice speaking English"* (Option G) is the main reason for their pronunciation errors. **Instructional influence:** About 10.3% (n=3) reported that *"My previous teachers did not correct my pronunciation"* (Option D), highlighting the role of teacher feedback in developing accurate pronunciation habits. Smaller percentages pointed to being *accustomed to memorizing written words* (Option B, 3.4%, n=1).**Knowledge of reading rules and habit transfer:** A minor proportion (6.9 %) (n=2) selected *"I don't know most of the reading rules"* (Option A) or *"I had been used to pronouncing English words differently"* (6.9 %) (n=2), indicating that phonological knowledge and L1 transfer play a smaller but notable role.

To summarize, the survey demonstrates that insufficient speaking practice is the dominant self-reported cause of pronunciation errors among Georgian EFL learners. Teacher intervention and corrective feedback, while less frequently cited, are also important factors. Overall, the data suggest that a combination of practice opportunities and focused instruction is critical for improving learner pronunciation.

Discussion and Pedagogical Implications

The present study demonstrates that Georgian EFL learners face pervasive pronunciation challenges at both the segmental and suprasegmental levels, primarily influenced by the interaction of linguistic and extra-linguistic factors. At the segmental level, consonantal mispronunciations were widespread, with frequent interdental fricative substitutions (/θ/ → /t, s/; /ð/ → /d, z/), rhotic misarticulations, and cluster simplifications, reflecting the transfer of Georgian L1 phonological patterns and articulatory habits. Additional errors, such as /w/–/v/ confusions, orthographic influences, and final devoicing, highlight the combined effect of L1 interference, grapheme–phoneme mismatches, and phonotactic constraints. At the suprasegmental level, learners exhibited consistent stress misplacement, including both initial and final stress overgeneralizations, resulting in syllable-timed rhythm and reduced speech naturalness.

These findings reflect a complex interplay of linguistic and extra-linguistic factors that contribute to pronunciation challenges among Georgian EFL learners. At the linguistic level, the influence of Georgian L1 phonological patterns interferes with the accurate production of English sounds, stress, and intonation. Additionally, the inherent complexity of English phonology, including irregular spelling-sound correspondences and unpredictable stress patterns, further complicates learners' acquisition of native-like pronunciation.

Survey results reinforced these observations, revealing that insufficient speaking practice is the primary self-reported cause of pronunciation errors. Teacher feedback and previous instructional practices also contributed, although to a lesser extent, while L1 transfer and limited phonological knowledge played a minor but notable role.

To address these challenges, as the findings demonstrated, there is the need for a **multi-faceted pedagogical approach** that integrates **explicit pronunciation instruction,** ample practice opportunities, corrective feedback, and contrastive analysis of L1 and L2 phonological systems. Research in SLA supports the effectiveness of explicit phonetic instruction: for example, Gordon, Darcy, and Ewert (2012) found that learners who received focused, metalinguistic presentation and guided practice improved their comprehensibility more than those without explicit instruction Similarly, meta-analytic and empirical studies show that explicit instruction coupled with communicative, form-focused tasks (i.e., focus on form in meaningful contexts) leads to greater gains in both controlled and spontaneous speech than explicit instruction alone (Mora & Mora- 2023).

Corrective feedback is also central: pronunciation-focused feedback (e.g., recasts) has been shown to help L2 learners notice and self-repair phonological errors, particularly when learners already have some explicit phonetic knowledge (Saito, 2012). Moreover, classroom studies reveal that learners

strongly desire feedback on their pronunciation, and teacher recasts are frequently used, even if their effectiveness varies (Baker & Burri, 2016)

Finally, contrastive analysis of L1 and L2 phonological systems aligns with SLA principles: by explicitly drawing attention to differences between Georgian and English phonology, learners can become more aware of L1 interference, a process that helps form-meaning mapping and supports long-term intelligibility (Center for Applied Linguistics [CAELA], n.d.).

Incorporating **communicative and form-focused tasks,** listening discrimination exercises, self-monitoring, and collaborative practice provides a balanced and evidence-based framework. Such an approach not only targets segmental and suprasegmental difficulties but also fosters interaction-rich environments that promote natural pronunciation adjustment—ultimately enhancing learners' intelligibility, prosody, and overall oral fluency.

Conclusion, Limitations and Directions for Future Research

The study reveals that Georgian EFL learners experience significant pronunciation difficulties at both segmental and suprasegmental levels, shaped by linguistic and extra-linguistic factors. Segmental errors included frequent substitutions of interdental fricatives, rhotic misarticulations, cluster simplifications, /w/–/v/ confusions, orthographic interference, and final devoicing, reflecting L1 transfer and articulatory habits. Suprasegmentally, learners often misapplied lexical stress, producing a syllable-timed rhythm that reduced naturalness. Survey responses indicated that limited speaking practice, insufficient teacher feedback, and gaps in phonological knowledge contributed to these errors. To address these challenges, a multi-faceted pedagogical approach is required, integrating explicit pronunciation instruction, ample practice opportunities, corrective feedback, and contrastive L1–L2 analysis. This approach emphasizes the importance of incorporating communicative and form-focused tasks, listening exercises, self-monitoring, and collaborative activities, all of which can help learners improve both segmental accuracy and prosodic fluency (Gordon, Darcy, & Ewert, 2012; Saito & Lyster, 2012; Center for Applied Linguistics, n.d.).

Despite these contributions, several limitations should be acknowledged. The study relied on a relatively small and homogeneous sample, limiting generalizability. Data were collected through classroom observations, recorded speech, and self-reported surveys, which may not fully capture learners' performance in more naturalistic or high-stakes contexts. Manual analysis introduces potential observer bias, and while pedagogical recommendations are grounded in SLA theory and classroom practice, their practical effectiveness remains to be empirically tested.

Building on this work, future research could explore longitudinal intervention studies to evaluate the impact of SLA-informed pronunciation instruction over extended periods. Tracking learners' development in segmental and suprasegmental features would clarify which instructional strategies yield the most durable improvements in intelligibility and prosody. Additionally, comparative studies with learners from different L1 backgrounds could help distinguish which pronunciation challenges are specific to Georgian learners and which are more universally experienced by EFL students. These directions would strengthen the evidence base for effective, targeted pronunciation pedagogy.

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