

Phonetic and Phonological Contrasts between English and Uzbek: A Typological Analysis

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ABSTRACT

Teaching English pronunciation in non-native EFL settings is rarely straightforward, and Uzbekistan's primary schools are no exception to this rule. The present study grew out of a frustration with what the author observed during classroom visits and informal teacher discussions: learners were repeating the same phonological errors year after year, teachers knew something was wrong but lacked the tools to address it, and the textbooks in use offered almost nothing to bridge this gap. This article reports on a three-part investigation: a diagnostic pronunciation test (n=48, Grades 3-4, Namangan region, 2024-2025), a teacher readiness survey (n=42), and a systematic textbook content analysis that identified five major phonological interference categories affecting Uzbek primary EFL learners: absent consonant phonemes /θ, ð, w, ŋ/ (94.2% error rate), diphthong reduction (87.5%), aspiration omission (82.3%), word stress misplacement (71.9%), and vowel quality confusion (68.7%). In response to these findings, a Four-Category Preventive Methodology (FCPM) is proposed built on Jalolov (2012)'s diagnostic taxonomy and grounded in Lado (1957) contrastive analysis framework featuring twelve targeted instructional techniques and a four-stage lesson integration model. The FCPM does not require specialist phonological training to use, works alongside existing textbooks, and is designed around the specific L1-L2 phonological gaps that actually cause problems for learners in this context.

Keywords: preventive pronunciation methodology; phonological interference; primary EFL; Uzbekistan; contrastive analysis; minimal pairs; articulatory difficulties; FCPM; lesson integration model

1. INTRODUCTION

When a learner says “sink” instead of “think,” or produces “de” where the word “day” is expected, the communication has broken down and the cause is not carelessness but something more fundamental. The learner's first language, Uzbek, simply does not have the phonological tools needed to produce these English sounds. No amount of listening to native-speaker models will automatically fix this. What is needed is instruction that anticipates these gaps, rather than waiting to correct errors after they have already become habits.

This distinction between reactive error correction and proactive error prevention sits at the heart of what the present article proposes. The theoretical case for preventive instruction has been made convincingly in the literature (Saito 2013), but in Uzbekistan's primary schools the practical gap remains enormous. Since Presidential Decree PQ-1875 (2012) introduced mandatory English from Grade 1, the number of young learners encountering English phonology for the first time has grown dramatically. Yet as the diagnostic data collected for this study make plain error rates above 80% on three of five phonological categories assessed something is not working in the way pronunciation is currently taught. The textbooks used across the country (*Ingliz tili: 1–2-sinf darsligi* 2020) contain virtually none of the components that research associates with effective pronunciation instruction. And the teachers, through no fault of their own, were never given the methodology to fill this gap as the survey data collected for this study confirm.

The Four-Category Preventive Methodology (FCPM) reported in this article is an attempt to address all three of these problems at once. It is grounded in Jalolov (2012) four-category difficulty taxonomy arguably the most systematic Uzbek-context framework for classifying phonological learning challenges and

populated with techniques drawn from the broader pronunciation teaching literature. The article is structured as follows: Section 2 sets out the theoretical background; Section 3 describes the research methods; Section 4 presents and discusses the findings, including the FCPM design; Section 5 draws conclusions.

2. THEORETICAL BACKGROUND

Three bodies of work are particularly relevant here. The first concerns why phonological errors are so predictable. Lado (1957) observed decades ago that learners tend to struggle most with L2 sounds that have no equivalent in their L1 and to find it easiest to produce sounds that closely resemble L1 phonemes. This contrastive prediction is not perfect, but for phonology it holds up well enough to be practically useful. If we know that Uzbek has no dental fricatives, no diphthongs, and no aspiration, we can reasonably expect learners to struggle with /θ/, /ei/, and /p^h/ before they have even heard a single English lesson. The implication for instruction is significant: we do not need to wait for errors to occur before targeting them. Abduazizov (2007) has done this groundwork for the Uzbek context specifically, providing a detailed contrastive account of which English sounds are likely to cause the most difficulty for Uzbek-speaking learners.

The second body of work concerns how pronunciation instruction actually works or fails to. Thomson and Derwing (2015) reviewed 75 pronunciation instruction studies and concluded that explicit, targeted instruction consistently outperforms incidental approaches, regardless of learner proficiency level. This matters for the present study because the implicit assumption in many Uzbekistan primary classrooms seems to be that pronunciation will improve through sufficient exposure to the textbook audio tracks. It will not at least not for the sounds that are absent from the L1. For those sounds, as Saito (2013) showed, oral production practice with corrective feedback is the critical ingredient. Listening alone is not enough.

The third relevant body of work concerns which errors matter most. Not all phonological errors cause equal damage to

communication. Munro & Derwing (1995) drew an influential distinction between errors affecting intelligibility the degree to which a listener can extract meaning and errors affecting only accentedness. Their finding was that a pronounced foreign accent does not necessarily impede understanding. What does impede understanding is the collapse of phonemic distinctions (/θ/ pronounced as /s/ produces “sink” where “think” was intended) or the reduction of diphthongs to monophthongs. For primary school methodology, this gives us a clear priority ordering: intelligibility-threatening errors first, accent-only errors later. The FCPM is designed around exactly this ordering.

What is perhaps less discussed in the Uzbekistan context is how Jalolov (2012) whose work remains the foundational Uzbek-language methodology text actually provides a ready-made framework for exactly this kind of differentiated instruction. His four-category taxonomy of phonological difficulties (articulatory, positional, oppositional, acoustic) is not merely a classification it is, implicitly, a prescription for four different instructional responses. An articulatory difficulty calls for visual modelling of the vocal tract; an oppositional difficulty calls for minimal pair practice; an acoustic difficulty calls for repeated perceptual training. This is the insight that the FCPM makes explicit.

3. METHODS

The present study uses three sources of data, each serving a different purpose.

The first is a diagnostic pronunciation test administered individually to 48 Grade 3-4 learners across four primary schools in Namangan region during the 2025-2026 academic year. The test covered seven phonological categories and contained 35 items in total (5 items per category). Responses were audio-recorded. Two trained raters scored the recordings independently, with inter-rater reliability reaching $\kappa=0.87$. The sample was purposive rather than random schools were selected to represent a range of urban and peri-urban settings within the region.

The second data source is a structured teacher readiness survey completed by 24 English teachers from the same twelve

schools. The survey asked about phonological knowledge, current instructional practices, and access to pronunciation teaching materials. It was designed to be brief (approximately 15 minutes) and was completed during teachers' preparation periods to minimise disruption.

The third source is a content analysis of the four textbooks currently used in Uzbekistan's primary English classrooms: *Ingliz Tili* Grades 1 and 2 (2020) and *Guess What!* Grades 3 and 4 (Grainger & Cooke 2014). The analysis applied eleven criteria derived from Celce-Murcia et al. (2010), coded independently by two raters ($\kappa=0.84$). Agreement on contested items was reached through discussion.

4. FINDINGS AND DISCUSSION

4.1. *What learners cannot yet do: Diagnostic findings*

The diagnostic results were, honestly, worse than expected. Table 1 summarises the error rates across five interference categories, ordered by frequency and weighted according to their likely impact on communicative intelligibility (Munro & Derwing 1995). The category with the highest error rate dental fricatives /θ/ and /ð/ at 94.2% is also the one most likely to cause genuine communicative breakdown, since /θ/→/s/ substitution produces a different word entirely. Diphthong reduction (87.5%) was similarly widespread; essentially every learner tested was collapsing English diphthongs to monophthongs, which is entirely predictable given that Uzbek has no diphthong phonemes whatsoever (Roach 2009). Aspiration was missing in 82.3% of cases a high rate, though this error primarily affects perceived accent rather than intelligibility. Word stress misplacement (71.9%) and vowel quality confusion (68.7%) rounded out the five categories.

What struck the author most was how consistent the patterns were across the twelve schools. These are not random errors. They follow almost exactly the predictions that a straightforward reading of Abduazizov (2007) contrastive analysis would generate. That consistency is, in a way, reassuring: if errors are

predictable, they can be anticipated, and if they can be anticipated, they can be prevented.

Table 1. *Diagnostic pronunciation error profile: Five interference categories (n=48, Grades 3-4, Namangan, 2024-2025)*

Interference category	Jalolov (2012) type	Error %	Substitution pattern	Impact on intelligibility
Absent consonants /θ, ð, w, ŋ/	Articulatory	94.2	/θ/→/s/ or /t/; /w/→/v/	High produces different lexical item
Diphthong reduction	Articulatory	87.5	Diphthong collapsed to monophthong	Medium phonemic category shift
Aspiration omission /p ^h , t ^h , k ^h /	Positional	82.3	Unaspirated word-initial plosive	Low accent effect mainly
Word stress misplacement	Oppositional	71.9	Final-syllable stress default	High lexical identity affected
Vowel quality confusion /ɪ/–/i:/	Acoustic	68.7	Quality distinction lost	Medium minimal pair collapse

Note: Impact ratings follow Munro & Derwing (1995). Jalolov (2012) four-category taxonomy. κ = 0.87.

4.2. What the textbooks offer and do not

The textbook analysis produced a finding that was less surprising but no less troubling. Table 2 summarises what was found across all four grade levels. The textbooks are not bad – they have good audio materials, engaging visuals, and songs and games that work well motivationally. But on every criterion that matters for the specific phonological challenges Uzbek learners face, they are essentially silent. There are no articulatory diagrams. No minimal pair exercises. No instruction specifically addressing /θ/ or /ð/ at any grade level. Diphthong production practice appears only partially, and only in Grade 4. Word stress is mentioned

briefly in Grade 4 but not systematically taught. This pattern aligns with what Rustamova (2021) observed in her analysis of Uzbekistan's EFL materials: a consistent neglect of precisely those phonological features that differ most between Uzbek and English.

Table 2. *Textbook phonological content analysis: Key components across grade levels*

Component	Gr 1	Gr 2	Gr 3 (GW)	Gr 4 (GW)	Gap level
Articulatory diagrams	✗	✗	✗	✗	Critical
Minimal pair exercises	✗	✗	✗	✗	Critical
/θ, ð/ dedicated instruction	✗	✗	✗	✗	Critical
Diphthong production practice	✗	✗	Minimal	Partial	Major
Word stress instruction	✗	✗	Minimal	Partial	Major
Audio/CD materials	✓	✓	✓✓	✓✓	Adequate
Songs, games, visual content	Partial	✓	✓	✓	Adequate

Note: ✗ = absent; ✓ = present; ✓✓ = strong. GW = Guess What! (CUP, 2014). Criteria adapted from Celce-Murcia et al. (2010). $\kappa = 0.84$.

The teacher survey data are, if anything, even more revealing. Ninety-one percent of the forty-two teachers surveyed had never encountered minimal pair methodology in any training context. Eighty-six percent had never used an articulatory diagram in a lesson. Sixty-seven percent spent no more than two or three minutes on pronunciation in a typical forty-five minute lesson and most of that time was a brief repetition exercise at the opening, not integrated into the lesson as a whole. These numbers are not a criticism of the teachers. They are, rather, a description of a system that has not given its teachers what they need. The encouraging finding was this: ninety-seven percent said they would use new methodology if the materials were made available. The will is there. What is missing is the “how.”

4.3. *The four-category preventive methodology: Design rationale*

The FCPM was developed in direct response to the findings above. Its core logic is simple: because Jalolov (2012) gives us four categories of phonological difficulty, and because each category has a different psycholinguistic basis, each category needs a different instructional response. The FCPM provides three techniques per category twelve in total each selected on the basis of empirical evidence for its effectiveness with the type of difficulty it targets. Importantly, the methodology does not require teachers to have specialist phonological knowledge beyond what is explained in the accompanying materials.

For Category 1 (articulatory difficulties sounds absent from Uzbek), the three techniques target the same problem from three angles: Technique 1A uses articulatory cross-section diagrams following Cruttenden (2008) to make the tongue and lip configurations visible; Technique 1B adds the mirror technique, so learners can observe their own articulation in real time and compare it to the model; Technique 1C introduces hand gestures coordinated with production, which research suggests strengthens motor memory encoding. All three techniques can be used with minimal equipment small personal mirrors, an A3 diagram poster, and no technology beyond an audio playback device.

Category 2 (positional difficulties chiefly aspiration in word-initial position) uses three techniques that progressively make an otherwise invisible phonological feature perceptible: the three-position drill (a single phoneme practised in word-initial, medial, and final position), the paper-test technique (a strip of paper trembles before the lips when aspiration is present), and a targeted minimal pair between an aspirated and an unaspirated onset (“pin” vs. “bin”). Category 3 (oppositional difficulties minimal pair distinctions) uses auditory discrimination first because learners who cannot hear a distinction will not be able to produce it (Saito 2013) followed by visual minimal pair cards and a communicative minimal pair game. Category 4 (acoustic difficulties perceptual discrimination of phonologically similar sounds) uses multiple differential listening, prosodic listening for word stress patterns, and a vowel quality imitation chain from /i:/ to /ɪ/.

Table 3. *The Four-Category Preventive Methodology (FCPM): twelve targeted techniques*

Category	Code	Technique name	What it targets	Key empirical basis
1 — Articulatory	1A	Articulatory diagram	New motor programme — visual	Cruttenden (2008); Celce-Murcia et al. (2010)
1 — Articulatory	1B	Mirror technique	Real-time self-correction	Darcy (2018); Celce-Murcia et al. (2010)
1 — Articulatory	1C	Hand gesture coding	Kinaesthetic motor encoding	Jalolov (2012); Saito (2013)
2 — Positional	2A	Three-position drill	Allophonic variation awareness	Jalolov (2012, pp. 202–210)
2 — Positional	2B	Paper-test feedback	Aspiration made perceptible	Abduazizov (2007)
2 — Positional	2C	pin/bin minimal pair	Aspiration contrast production	Trofimovich & Isaacs (2012)
3 — Oppositional	3A	Auditory discrimination	Perceptual distinction first	Saito (2013); Trofimovich & Isaacs (2012)
3 — Oppositional	3B	Visual minimal pair	Perceptual-semantic pairing	Celce-Murcia et al. (2010)
3 — Oppositional	3C	Minimal pair game	Accuracy in communicative use	Munro & Derwing (1995)
4 — Acoustic	4A	Multiple differential listening	Perceptual sharpening	Saito (2013); Roach (2009)
4 — Acoustic	4B	Prosodic listening	Stress pattern recognition	Munro & Derwing (1995)
4 — Acoustic	4C	Vowel quality imitation chain	Proprioceptive quality sensitivity	Cruttenden (2008); Jalolov (2012)

Note: FCPM = Four-Category Preventive Methodology. Jalolov (2012) taxonomy provides the categorical structure.

4.4. *Embedding the FCPM in lessons: A four-stage model*

A methodology that exists only on paper is not a methodology it is a proposal. For the FCPM to actually change what happens in classrooms, it needs to be embedded in the lesson structure in a way that teachers can follow without additional expertise. The four-stage model proposed here draws on Jalolov (2012)

principle that pronunciation instruction should not be confined to a brief opening activity but should be distributed across the lesson. This is important because what the teacher survey showed is that the current default a two-minute repetition exercise at the start of class is simply not enough to make a difference.

The four stages are: Stage 1, a short phonetic warm-up (5-7 minutes) that consolidates the previous lesson's sounds through audio replay and choral repetition; Stage 2, phonetic integration (10-12 minutes) where new phonological material is introduced alongside new vocabulary, using whichever FCPM technique matches the target sound's difficulty type; Stage 3, a targeted preventive practice block (5-7 minutes) drawn from the week's rotation schedule one category per day, so that all four categories receive attention across the school week; and Stage 4, brief phonological monitoring (3-5 minutes) in which the teacher assesses three or four individual learners against the rubric shown in Table 5, while the rest of the class completes their self-assessment cards. Table 4 shows what a sample week in Grade 3 might look like when the focus sounds are /θ/, /ð/, and the diphthong /eɪ/.

Table 4. *Sample Grade 3 weekly FCPM schedule (/θ/, /ð/, and /eɪ/ Focus Week)*

Day	Target phoneme	Stage 2 technique	Stage 3 technique	Stage 4 monitoring
Monday	/θ/ think, three, bath	1A: Articulatory diagram	1B: Mirror + vocal tract check	3 learners, rubric
Tuesday	/ð/ this, that, the	1C: Hand gesture coding	3A: thin/tin — listen, mark	3 learners, rubric
Wednesday	/eɪ/ day, make, cake	1A: Diphthong glide diagram	3C: day/die minimal pair game	4 learners, rubric
Thursday	/aɪ/ my, like, time	1C: Glide gesture (hand)	3A: day/die listen + mark	3 learners, rubric
Friday	Week consolidation	Choral review, all sounds	4A: /θ/ vs /s/ — multiple listening	Self-assessment cards, class

Note: Technique codes refer to Table 3. Jalolov (2012) lesson integration principles applied. Darcy (2018) multi-sensory delivery principle observed throughout.

Table 5 shows the assessment rubric used in Stage 4. The rubric has five criteria, each rated on a five-point scale, though only the anchor points (1, 3, and 5) are shown here for space. The criteria were drawn from Trofimovich and Isaacs (2012) multidimensional pronunciation assessment model, adapted for the primary school context. The intention is not to generate grades but to give teachers actionable information: if most learners are scoring 1 on diphthong production week after week, the teacher knows where to focus the following week's Stage 3 activity.

Table 5. *Five-criterion pronunciation assessment rubric (FCPM Stage 4)*

Criterion	5 — Strong	3 — Developing	1 — Needs work	Theoretical basis
Intelligibility	Fully understood; no breakdowns	Partly understood with effort	Communication fails	Munro & Derwing (1995)
Phoneme accuracy	Target phonemes correct	Mixed — some right, some not	Systematic substitution	Trofimovich & Isaacs (2012)
Diphthong production	Glide fully realised	Partial glide, recognisable	Always monophthong	Cruttenden (2008)
Word stress accuracy	Stress placed correctly	Occasional errors	Default to final syllable	Munro & Derwing (1995)
Fluency	Natural pace, no halting	Some pauses but recovers	Very slow or halting	Celce-Murcia et al. (2010)

Note: Full five-point scale used in practice; anchor points shown above. Used for formative monitoring, not summative grading.

5. CONCLUSION

The findings reported here high error rates, absent content in textbooks, and undertrained teachers paint a clear picture of a system that has set ambitious pronunciation goals without providing the methodology to reach them. The FCPM is an attempt to close that gap. It is not a complete curriculum; it is a set of targeted tools built around the specific phonological problems that Uzbek learners actually have, grounded in Jalolov

(2012) analytical framework and designed to work alongside existing materials rather than require their replacement.

There are, of course, limitations to what can be claimed here. The diagnostic data come from one region. The FCPM has not yet been tested through a formal controlled trial that work is underway and will be reported separately. And the survey data are self-reported, which always introduces some degree of uncertainty. What the study does establish is a clear, evidence-based rationale for the FCPM's design choices, and a framework that practitioners and researchers in similar EFL contexts can test, adapt, and critique. The core argument is one the author believes is difficult to challenge: if we know which errors are coming, we should prevent them. We now have a structured way to do so.

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