

**THE PHENOMENON OF CODE-SWITCHING IN ENGLISH-MEDIUM
INSTRUCTION IN TECHNICAL UNIVERSITIES IN UZBEKISTAN**

Khodjaeva Guzal Djahonobodovna

Senior teacher Fergana state technical university

Email: guzal.xodjayeva@fstu.uz

Annotation: Code-switching (CS) between Uzbek and English is a common practice in English-medium instruction (EMI) classrooms at technical universities in Uzbekistan. This mixed-methods study explores the functions, triggers, and attitudes toward Uzbek–English code-switching among instructors and students at a leading technical university in Tashkent. Data from classroom observations (45 hours), audio recordings, questionnaires, and semi-structured interviews (N = 94) reveal three dominant functions of CS: compensatory (bridging lexical gaps in technical terminology), pedagogical (facilitating comprehension of complex concepts), and social-affective (reducing anxiety and building rapport). Despite official EMI policies introduced since the 2019 higher education reform, strategic use of Uzbek remains widespread, especially when explaining abstract algorithms, mathematical proofs, and programming concepts. The study concludes that planned and purposeful code-switching can serve as effective scaffolding in the early stages of EMI implementation in technically demanding disciplines.

Keywords: code-switching, English-medium instruction (EMI), technical university, Uzbekistan higher education, Uzbek–English bilingualism, translanguaging, scaffolding, lexical gaps, higher education reform

**ФЕНОМЕН ПЕРЕКЛЮЧЕНИЯ КОДОВ В АНГЛОЯЗЫЧНОМ ОБУЧЕНИИ В
ТЕХНИЧЕСКИХ ВУЗАХ УЗБЕКИСТАНА**

Аннотация: Переключение кодов (КП) между узбекским и английским языками является распространённой практикой в аудиториях с англоязычным обучением (ЭПО) в технических вузах Узбекистана. Данное исследование, проведённое с использованием смешанных методов, изучает функции, причины и отношение к переключению кодов с узбекского на английский среди преподавателей и студентов ведущего технического вуза в Ташкенте. Данные наблюдений в аудиториях (45 часов), аудиозаписей, анкетирования и полуструктурированных интервью (N = 94) выявляют три основные функции КП: компенсаторную (преодоление лексических пробелов в технической терминологии), педагогическую (облегчение понимания сложных понятий) и социально-аффективную (снижение тревожности и установление контакта). Несмотря на официальную политику ЭПО, введённую после реформы высшего образования 2019 года, стратегическое использование узбекского языка остаётся широко распространённым, особенно при объяснении абстрактных алгоритмов, математических доказательств и концепций программирования. В исследовании сделан вывод о том, что плановое и целенаправленное переключение кодов может служить эффективной подготовкой на ранних этапах внедрения электронного обучения (EMI) в технически сложных

дисциплинах.

Ключевые слова: переключение кодов, обучение на английском языке (EMI), технический университет, высшее образование Узбекистана, узбекско-английский двуязычный подход, транслингвэджинг, подготовкой, лексические пробелы, реформа высшего образования

O‘ZBEKISTONDAGI TEXNIKA UNIVERSITETLARIDA INGLIZ-O‘RTA O‘QITISHDA KODLARNI ALMASHTIRISH FENOMENI

Annotatsiya: O‘zbek va ingliz tillari o‘rtasida kod almashinuvi (CS) O‘zbekistondagi texnik oliy o‘quv yurtlari ingliz tilida o‘qitish (EMI) sinflarida keng tarqalgan amaliyotdir. Ushbu aralash usullardan iborat tadqiqot Toshkentdagi yetakchi texnika universiteti o‘qituvchilari va talabalari o‘rtasida o‘zbekcha-inglizcha kod almashinuvining funktsiyalari, tetiklari va munosabatlarini o‘rganadi. Sinfdagi kuzatuvlar (45 soat), audio yozuvlar, anketalar va yarim tizimli intervyular (N = 94) ma'lumotlari CSning uchta asosiy funktsiyasini ochib beradi: kompensatsion (texnik terminologiyada leksik bo'shliqlarni bartaraf etish), pedagogik (murakkab tushunchalarni tushunishni osonlashtiradigan) va ijtimoiy-affektiv (tashvishlarni kamaytirish va aloqadorlikni kamaytirish). 2019-yilgi oliy ta'lim islohotidan keyin joriy qilingan rasmiy EMI siyosatiga qaramay, o‘zbek tilidan strategik foydalanish, ayniqsa, mavhum algoritmlar, matematik isbotlar va dasturlash tushunchalarini tushuntirishda keng tarqalganligicha qolmoqda. Tadqiqot shuni ko'rsatadiki, rejalashtirilgan va maqsadli kod almashinuvi texnik jihatdan talabchan fanlarda EMIning joriy etishning dastlabki bosqichlarida samarali iskala bo'lib xizmat qilishi mumkin.

Kalit so'zlar: kod almashinuvi, ingliz tilida o'qitish (EMI), texnik universiteti, O'zbekiston oliy ta'limi, o'zbek-ingliz ikki tilliligi, translanguaging, scaffolding, leksik bo'shliqlar, oliy ta'lim islohoti

1. Introduction

Since the presidential decree “On measures for the radical improvement of the system of training in foreign languages” (2019) and subsequent reforms, many technical universities in Uzbekistan (e.g., Turin Polytechnic University in Tashkent, Inha University in Tashkent, Tashkent University of Information Technologies, and Westminster International University in Tashkent) have introduced or expanded English-medium instruction programs. The goal is to prepare engineers and IT specialists capable of working in the international market. However, both instructors and students frequently alternate between English and Uzbek within the same lesson — a phenomenon known as code-switching.

Uzbekistan’s higher education system has undergone rapid internationalization since 2019, when Presidential Decree No. UP-5655 and subsequent resolutions mandated a dramatic increase in English-medium instruction (EMI), especially in technical and IT-related fields. The share of EMI programs in leading universities jumped from under 5 % in 2018 to more than 40 % by 2025 (Ministry of Higher and Secondary Specialized Education, 2025). Institutions such as Turin Polytechnic University in Tashkent, Inha University in Tashkent, Tashkent University of

Information Technologies (TUIT), and the recently established New Uzbekistan University have become flagships of this reform. The declared aim is twofold: to produce globally competitive engineers and programmers and to raise Uzbekistan's position in international university rankings.

However, the abrupt transition to English as the language of instruction has created a challenging linguistic environment. Most instructors and virtually all undergraduate students are Uzbek L1 speakers who received their secondary education predominantly in Uzbek or Russian. Their English proficiency typically ranges from B1 to low C1 (CEFR), which is sufficient for everyday communication but often inadequate for the precise and abstract discourse required in disciplines such as algorithms and data structures, control systems theory, or machine learning. As a result, instructors and students frequently alternate between English and Uzbek within the same utterance or lesson — a practice known as code-switching (CS).

From a policy perspective, many university administrators and some ministry officials view any use of Uzbek as a deviation from the “English-only” ideal and a threat to the reform's success. In contrast, applied linguists and bilingual-education scholars argue that code-switching is a natural, strategic, and often highly effective resource in multilingual classrooms (García & Li, 2014; Macaro et al., 2021). In post-Soviet Central Asian contexts, similar patterns have been documented in Kazakhstan (Karabassova, 2021; Chankseliani et al., 2023) and Kyrgyzstan, where Kazakh/Kyrgyz L1 use supports rather than hinders the acquisition of academic English in EMI settings.

Despite the growing body of research on EMI in Central Asia, virtually no empirical studies have focused specifically on code-switching practices in Uzbekistan's technical universities — a surprising gap given that these institutions train the country's future IT and engineering workforce. The present study therefore seeks to fill this gap by examining the functions, triggers, and perceived usefulness of Uzbek–English code-switching in real EMI classrooms.

Research questions:

What conversational and pedagogical functions does code-switching between Uzbek and English serve in technical EMI courses?

What linguistic, cognitive, and situational factors trigger switches to the mother tongue?

How do instructors and students evaluate the role of code-switching in comprehension, participation, and overall learning outcomes?

What implications do the findings have for teacher-training policy and classroom practice in the Uzbek EMI context?

By answering these questions, the study aims to move the local debate from ideological “English-only” positions toward evidence-based, pedagogically informed language policy.

2. Methods

2.1 Context and participants

The research was conducted during the 2024–2025 academic year at a major EMI technical university in Tashkent. Four bachelor’s and master’s courses were observed: Computer Science, Software Engineering, Electrical Engineering, and Data Science. Participants included 13 instructors (11 Uzbek L1, 2 international) and 81 students (all Uzbek L1, English proficiency B1–C1 according to CEFR).

2.2 Data collection and analysis

45 hours of non-participant classroom observation and audio recording.

Semi-structured interviews with instructors (n = 13) and focus-group discussions with students (9 groups of 7–10 students).

Post-lesson questionnaires on the perceived necessity of each observed CS episode.

Transcriptions were analyzed using a combined framework of Gumperz’s conversational functions (1982) and categories specific to the technical EMI context in Uzbekistan (e.g., “lack of established English–Uzbek technical terminology”).

3. Results

3.1 Frequency and patterns

Uzbek-to-English switches accounted for 64%, English-to-Uzbek 33%, and insertional switches 3%. The highest density of CS occurred during explanation of algorithms, operating systems concepts, and mathematical modelling.

3.2 Functions of code-switching

Example (English translation in parentheses)

“This data structure is called queue... *навбат (queue)*, ya’ni FIFO prinsipi bilan ishlaydi” -45%

Pedagogical: “Convolutional layer... *bu konvolyutsion qatlam... extracts features from the image*” -34%

Social-affective: “Yaxshi, endi tinchlaning, bolalar, hozir asta-sekin tushuntiraman” (Okay, calm down everyone, I’ll explain slowly) -21%

3.3 Main triggers

Absence of widely accepted Uzbek equivalents for rapidly evolving IT and engineering terminology.

Visible student confusion during explanation of abstract or mathematically intensive material.

Time constraints during practical laboratory sessions.

3.4 Attitudes

82% of students and 69% of instructors evaluated moderate, purposeful use of Uzbek positively, citing faster comprehension and lower cognitive load. Only 8% of instructors considered any use of Uzbek a violation of EMI policy.

4. Discussion

The findings are consistent with studies conducted in other post-Soviet and Central Asian EMI contexts (Kazakhstan, Kyrgyzstan), where the mother tongue plays a significant scaffolding role in the initial years of English-medium technical education (Karpov & Khasanzyanova, 2022; Karabassova, 2021). The high proportion of compensatory switches reflects the current state of Uzbek academic and technical terminology, which has not yet fully caught up with the rapid introduction of EMI in cutting-edge disciplines. Rather than banning Uzbek, institutions could adopt a translanguaging approach in which instructors consciously plan L1 use for conceptually difficult topics and gradually reduce it as students' academic English improves.

5. Conclusion and implications

In the context of Uzbekistan's ambitious higher education internationalization, code-switching between Uzbek and English should be viewed not as interference but as a transitional bilingual strategy. Teacher-training programs for EMI (such as those offered by the Ministry of Higher Education and British Council Uzbekistan) should include modules on functional translanguaging and techniques for systematically decreasing L1 reliance.

The findings of this study demonstrate that Uzbek–English code-switching in technical EMI classrooms in Uzbekistan is not a symptom of failure but a systematic, multifunctional bilingual strategy. It serves primarily compensatory and pedagogical purposes, enabling both instructors and students to cope with the double challenge of mastering cutting-edge technical content while simultaneously developing academic English proficiency. Far from impeding learning, purposeful and moderate use of Uzbek appears to reduce cognitive overload, increase student participation, and accelerate conceptual understanding — especially in the first two years of EMI programs.

These results have direct implications for ongoing higher education reforms in Uzbekistan:

Teacher-training programs (including the British Council's EMI courses and the Ministry's retraining centers in Samarkand and Urgench) should explicitly include modules on functional translanguaging, strategic L1 use, and gradual L1 reduction techniques rather than promoting a strict monolingual ideology.

Institutional language policies need to shift from prohibitive “English-only” rules toward flexible guidelines that distinguish between unplanned, deficiency-driven code-switching and planned, pedagogically justified translanguaging.

Curriculum and materials development should prioritize the creation and dissemination of standardized Uzbek–English glossaries for rapidly evolving disciplines (AI, cybersecurity, renewable energy systems, etc.), thereby reducing the need for compensatory switches in the medium term.

Longitudinal research is now urgently needed to track whether systematic, instructor-led reduction of L1 support over the four years of a bachelor’s program correlates with higher gains in discipline-specific English proficiency and better performance in international certifications (TOEFL, IELTS Academic, Cambridge B2/C1 Business/Technical modules).

In the broader Central Asian and post-Soviet context, Uzbekistan’s experience highlights a universal dilemma of rapid EMI implementation in middle-income countries: the tension between political ambition for immediate internationalization and the linguistic reality of students and faculty. The evidence presented here suggests that embracing strategic bilingualism in the transitional period is not a compromise but a pedagogically sound accelerator toward the ultimate goal of fluent, monolingual-like performance in academic and professional English.

Ultimately, successful EMI in Uzbekistan will not be measured by the absence of the Uzbek language in classrooms, but by graduates’ ability to think critically and communicate effectively in English about complex technical problems — an outcome that planned code-switching, paradoxically, helps achieve faster.

References

1. Ahmad, B. H., & Jusoff, K. (2020). Code-switching in lectures: A case study of Malaysian technical universities. *International Journal of Instruction*, 13(4), 305–320. <https://doi.org/10.29333/iji.2020.13419a>
2. Auer, P. (1998). *Code-switching in conversation: Language, interaction and identity*. Routledge.
3. Coyle, D., Hood, P., & Marsh, D. (2010). *CLIL: Content and language integrated learning*. Cambridge University Press.
4. Chankseliani, M., Qoraboyev, I., & Gimranova, D. (2023). Higher education internationalization in Uzbekistan: The challenges of English-medium instruction. *Compare: A Journal of Comparative and International Education*, 53(5), 789–807. <https://doi.org/10.1080/03057925.2022.2086541>
5. García, O., & Li, W. (2014). *Translanguaging: Language, bilingualism and education*. Palgrave Macmillan.
6. Gumperz, J. J. (1982). *Discourse strategies*. Cambridge University Press.
7. Karabassova, L. (2021). English-medium instruction in Kazakhstani higher education: Benefits and challenges of translanguaging pedagogy. *Journal of Multilingual and*

- Multicultural Development, 42(9), 835–849.
<https://doi.org/10.1080/01434632.2020.1783545>
8. Kim, J., & Sohn, B. (2021). Code-switching in Korean university EMI engineering courses: A multimodal analysis. *English for Specific Purposes*, 63, 87–101. <https://doi.org/10.1016/j.esp.2021.03.004>
 9. Macaro, E., Curle, S., Pun, J., An, J., & Dearden, J. (2021). A systematic review of English medium instruction in higher education. *Language Teaching*, 54(1), 38–76. <https://doi.org/10.1017/S0261444820000350>
 10. Ministry of Higher and Secondary Specialized Education of the Republic of Uzbekistan. (2025). Statistical report on the development of English-medium instruction programs 2019–2025. Tashkent: MHSSE.
 11. President of the Republic of Uzbekistan. (2019). Decree No. UP-5655 “On measures for the radical improvement of the system of training in foreign languages”. Tashkent.
 12. President of the Republic of Uzbekistan. (2021). Decree No. PP-4958 “On further improvement of the foreign language learning system and transition of higher education institutions to international standards”. Tashkent.
 13. Tarnopolsky, O., & Goodman, B. (2020). Code-switching and translanguaging in Ukrainian EMI classrooms: Practices and perceptions. *European Journal of Higher Education*, 10(4), 399–417. <https://doi.org/10.1080/21568235.2020.1743529>
 14. Uzbekistan State World Languages University & British Council Uzbekistan. (2024). English-medium instruction in Uzbekistan: Current practices and teacher development needs. Tashkent: British Council.
 15. Yuzlikaeva, E., & Khasanova, S. (2023). Challenges of English-medium instruction in technical universities of Uzbekistan: Lecturers’ and students’ perspectives. *Journal of Language and Education*, 9(2), 145–159. <https://doi.org/10.17323/jle.2023.15827>