

CODE-MIXING AMONG SHINA-SPEAKING UNIVERSITY STUDENTS: PATTERNS, MOTIVATIONS, AND IMPLICATIONS FOR INDIGENOUS LANGUAGE MAINTENANCE AT KARAKORAM INTERNATIONAL UNIVERSITY

Ilyas Khan^{*1}, Kaneez Fatima², Moin Ud Din³, Fozia Salemi⁴

^{*1,4}Department of Linguistics & Literature, Karakoram International University, Gilgit

²Lecturer, Department of Linguistics & Literature, Karakoram International University, Gilgit

³Lecturer, Department of English, Govt. Boys Degree College Mohammad Abad Danyore, Gilgit

¹aleekhan1312@gmail.com, ²kaneez.fatima@kiu.edu.pk, ³moyeen363@gmail.com,
⁴haiderfoia72@gmail.com

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Corresponding Author: *

Ilyas Khan

Abstract

Code-mixing, the insertion of lexical items from one language into the grammatical frame of another, is a well-documented feature of bilingual and multilingual speech. However, most empirical work on English-mixing has focused on speakers of large national or international languages, leaving its consequences for smaller, culturally embedded indigenous languages comparatively unexamined. This study investigated English-Shina code-mixing among students at Karakoram International University (KIU) in Gilgit-Baltistan, Pakistan, a setting in which English, Urdu, and Shina are used side by side in daily academic and social life. Using a mixed-methods survey design, structured questionnaires were administered to 100 Shina-speaking students (40 male, 60 female), combining closed items analyzed through descriptive statistics with open-ended responses analyzed through qualitative content analysis. Findings showed that code-mixing was pervasive across academic, technological, and social domains, with English lexical items most frequent in academic vocabulary (79%), followed by daily-activity (65%) and personal-appearance terms (57%), technology and communication terms (53%), and expressions of emotion (47%) and social interaction (42%). Educational exposure emerged as the strongest motivating factor (83%), followed by peer interaction (69%), lexical convenience (58%), and technology use (55%). While most participants (73%) viewed code-mixing positively as a marker of communicative competence and bilingual identity, a substantial majority (69%) also expressed concern that increasing reliance on English vocabulary could erode Shina lexical richness over time. These findings are interpreted through Weinreich's (1953) Language Contact Theory alongside Myers-Scotton's (1993) Markedness Model, which together help explain why English insertions are simultaneously functional and, for the community, symbolically fraught. The study contributes empirical evidence from an understudied indigenous-language context and argues for language policies

that support balanced bilingualism rather than treating English proficiency and Shina maintenance as competing goals.

Introduction

Bilingual and multilingual speakers rarely keep their languages in separate, watertight compartments. In everyday conversation, they draw on whichever linguistic resources best serve the moment—a habit linguists call code-mixing when it involves inserting words, phrases, or structures from one language into an utterance framed by another (Muysken, 2000). As global mobility, digital communication, and English-medium education have expanded contact between languages, code-mixing has become one of the most actively researched phenomena in sociolinguistics, studied from perspectives ranging from classroom pedagogy (Buskivadze, 2021; Natriashvili, 2025) to computational language processing (Mustafa et al., 2022; Winata et al., 2023).

What is less often studied is what happens when the language being mixed into is not a large national language but a smaller, culturally central indigenous one. Gilgit-Baltistan (GB), in northern Pakistan, offers a striking case in point. The region is home to several indigenous languages, of which Shina is among the most widely spoken and carries significant weight as a marker of ethnic and cultural identity for its speakers. At the same time, Urdu functions as the national language and English dominates higher education, administration, and digital communication. University students, in particular, sit at the intersection of these pressures: English is the medium of instruction, the language of academic material, and increasingly the language of peer communication on campus, even as Shina remains the language of home and community. It is in this everyday friction between institutional English and inherited Shina that code-mixing becomes not just a communicative convenience but a site where questions of language maintenance and language shift begin to surface.

This is the gap the present study addresses. While a substantial body of research has

examined the functions, motivations, and educational value of code-mixing among speakers of dominant languages (Saleem & Usman, 2025; Talpur et al., 2025; Tarigan et al., 2024), very little empirical work has asked what English lexical insertion means for the everyday vitality of an indigenous language like Shina, or how Shina-speaking students themselves interpret the trade-off between communicative ease and linguistic loss. Karakoram International University offers a natural setting to examine this question, given its genuinely trilingual academic environment. Accordingly, this study asks three interrelated questions: How do Shina-speaking students at KIU use English in oral communication? Which English lexical items are most frequently inserted into Shina speech? What factors motivate this practice? A further, more interpretive aim is to understand how students themselves read the implications of this pattern for the future of the Shina language.

Literature Review

Code-Mixing as a Communicative and Social Practice

Two broad orientations dominate the literature. One treats code-mixing primarily as a communicative strategy, a way of achieving precision, efficiency, or emphasis that a single language cannot always provide (Albahoth et al., 2024; Saleem & Usman, 2025; Tarigan et al., 2024). The other treats it as a social and identity-related practice, in which language choice signals group membership, education level, or cultural affiliation as much as it conveys propositional content (Doğruöz et al., 2021; Fatima & Kousar, 2025). These two views are not competing so much as complementary: most contemporary accounts, following Doğruöz et al. (2021), now treat code-mixing as multidimensional, shaped simultaneously by linguistic economy and social meaning. A separate, largely disconnected strand

of scholarship approaches code-mixing computationally, focusing on the technical challenges it poses for speech recognition and language identification systems (Jose et al., 2020; Li et al., 2023; Winata et al., 2023). This strand confirms that mixed-language speech is now a pervasive, real-world phenomenon substantial enough to demand its own technical solutions, a useful reminder that code-mixing is no longer a marginal feature of bilingual speech but an expected default in many multilingual settings.

Motivations for Code-Mixing

Where communicative and identity-based accounts genuinely diverge is in what they predict about context-sensitivity. Communicative-efficiency accounts suggest code-mixing should increase wherever lexical gaps or unfamiliar equivalents exist, regardless of audience (Albahoth et al., 2024). Identity-based accounts, by contrast, predict that mixing should vary systematically with audience, topic, and social setting, since it functions as a marker of belonging rather than a mere lexical shortcut (Saleem & Usman, 2025; Yim & Clément, 2021). Talpur et al. (2025) attempted to reconcile these positions by proposing that communicative, social, and psychological motivations operate jointly rather than as mutually exclusive causes. This layered view is broadly consistent with the present study's findings, though—as discussed below—nearly all of this work has been conducted among speakers of dominant national or international languages, leaving open whether the same balance of motivations holds for speakers of a smaller, more vulnerable language.

Code-Mixing in Educational Settings

Within educational contexts specifically, the evidence is unusually consistent: code-mixing is repeatedly found to support comprehension, participation, and confidence in bilingual classrooms (Arumaisya, 2025; Buskivadze, 2021; Jusufi & Jusufi, 2024; Kumari, 2024; Natriashvili, 2025). This convergence across very different educational system, CLIL classrooms in Georgia, ESL settings in South Asia, primary

bilingual education elsewhere, suggests a genuinely robust pedagogical finding rather than a context-specific artifact. What this literature does not address, however, is the university as a specifically multilingual (rather than simply bilingual) institution, where more than two languages compete for the same communicative space, as is the case at KIU.

Identity, Social Interaction, and Attitudes

A related line of work treats code-mixing as an identity practice rather than only a classroom tool. Fatima and Kousar (2025) found that Pakistani university students use mixed-language speech to project educational status and group belonging; Safdar (2025) showed that this varies by academic discipline; and Yim and Clément (2021) demonstrated that positive attitudes toward bilingualism predict greater acceptance and use of code-mixing more broadly. Taken together, these studies point to code-mixing as socially rewarded behavior among young, educated bilinguals—which raises an important question this study returns to: If code-mixing is socially rewarded, what happens to the social status of the language being displaced?

Code-Mixing and Minority or Indigenous Languages

This is precisely where the literature thins out. A small number of studies gesture toward language-maintenance concerns—Rayo et al. (2024) noted that heavy lexical borrowing from dominant languages can affect minority-language vitality, and Jamshed and Shakir (2025) reached a similar conclusion for Pashto—but neither offers a sustained empirical account of how speakers themselves weigh the benefits of code-mixing against its risks to their heritage language. Elyas (2025) argued more generally for balancing second-language development with native-vocabulary retention, but without empirical grounding in a specific speech community. Shina's position differs from the languages typically studied in this literature in one important respect: unlike a national or widely institutionalized language, Shina carries substantial ethnic and cultural weight for its

speakers but very little institutional support, making it, in principle, more exposed to lexical erosion from a prestige language like English.

Research Gap

Three gaps emerge from this review. First, although code-mixing motivations have been studied extensively, almost none of this work has been conducted with speakers of an indigenous language whose own maintenance is at stake. Second, the university-as-multilingual-institution context, where three languages, not two, are simultaneously in play, remains largely unexplored. Third, existing minority-language studies tend to assert risk to language vitality theoretically rather than documenting how speakers themselves perceive and negotiate that risk. The present study addresses all three by examining English-Shina code-mixing at KIU, a setting where English, Urdu, and Shina coexist daily, and by asking students directly how they understand the consequences of their own linguistic practice.

Theoretical Framework

This study draws primarily on Weinreich's (1953) Language Contact Theory, which holds that sustained contact between speakers of different languages produces linguistic transfer—lexical borrowing in particular—as a natural consequence of bilingual interaction. Applied to KIU, the theory predicts that students whose academic, social, and digital lives place them in constant contact with English will increasingly

borrow English lexical items into Shina speech, with borrowing eventually consolidating into the more systematic pattern of code-mixing. Weinreich's framework is well suited to explaining why contact produces mixing in the first place, but it says comparatively little about which items get borrowed, by whom, and under what social conditions, questions this study also needed to answer.

To address that gap, the analysis is supplemented with Myers-Scotton's (1993) Markedness Model, which treats language choice, including code-mixing, as a socially meaningful act: speakers select an unmarked (expected, unremarkable) code for a given interaction, or a marked one to signal something, authority, modernity, distance, or solidarity, beyond the literal content of the utterance. Read together, the two frameworks offer a fuller account: Weinreich explains the mechanism of contact-induced borrowing, while the Markedness Model helps explain why certain domains (academic vocabulary, technology) show near-total English penetration while others (kinship terms, emotional expression) remain comparatively resistant. The conceptual framework guiding data collection, shown in Figure 1, reflects this combined lens: regular contact with English at KIU is treated as the starting condition, code-mixing patterns and motivations as the observable outcome, and perceived implications for Shina maintenance as the phenomenon of ultimate interest.

Conceptual Framework: Language Contact and Code-Mixing Outcomes

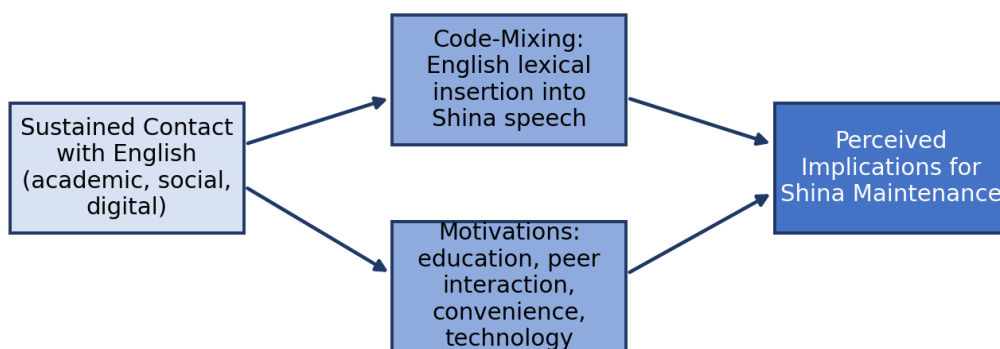


Figure 1. Conceptual framework showing the relationship between sustained language contact, code-mixing patterns and motivations, and perceived implications for Shina language maintenance

Method

Research Design

This study used a mixed-methods survey design, combining a structured questionnaire with closed items analyzed descriptively and open-ended items analyzed through qualitative content analysis. This combination was chosen deliberately: closed items allow the identification of broad patterns of English lexical insertion across the sample, while open-ended responses allow students to explain, in their own words, why they mix languages and how they feel about its consequences for Shina.

Research Setting

The study was conducted at Karakoram International University (KIU), Gilgit-Baltistan, a setting in which English functions as the medium of instruction, Urdu as the national

lingua franca, and Shina and other indigenous languages as the languages of home and community life. This layered multilingual environment makes KIU particularly well suited to observing code-mixing as it naturally unfolds among students balancing academic, social, and cultural demands on their language use.

Participants and Sampling

The target population comprised KIU students who speak Shina as their first language. A total of 100 students (40 male, 40%; 60 female, 60%) were selected using purposive sampling, on the basis that they were native Shina speakers with regular exposure to English in academic and social settings. Participants were drawn from multiple academic departments to capture a range of disciplinary exposure to English; Table 1 summarizes the sample.

Table 1

Demographic Characteristics of Participants (N = 100)

Characteristic	Category	n	%
Gender	Male	40	40

Characteristic	Category	n	%
	Female	60	60
Academic year	1st–2nd year	44	44
	3rd–4th year	56	56
Department (grouped)	Sciences	38	38
	Social Sciences / Humanities	42	42
	Business & Management	20	20

Note. Percentages are rounded to the nearest whole number and may not sum exactly to 100 due to rounding.

Gender Distribution of Participants (N = 100)

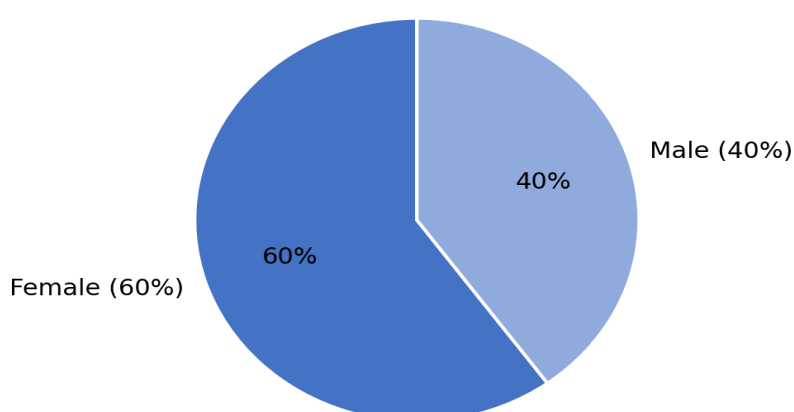


Figure 2. Gender distribution of participants (N = 100)

Research Instrument

Data were collected using a structured questionnaire comprising three sections: (a) demographic information, (b) language use and code-mixing patterns, including the frequency and context of English lexical insertion, and (c) perceptions of language preservation and language shift. The instrument combined closed items, which allowed quantifiable comparison across respondents, with open-ended items, which allowed participants to elaborate on their motivations and concerns in their own words. The full instrument is reproduced in the Appendix.

Procedure

Questionnaires were administered in person following an explanation of the study's purpose. Participation was voluntary, and respondents were assured of confidentiality. Completed questionnaires were checked for completeness before analysis.

Data Analysis

Closed-item responses were tabulated and summarized using frequencies and percentages in Microsoft Excel. Open-ended responses were analyzed using qualitative content analysis: responses were read repeatedly, coded inductively, and grouped into recurring themes relating to motivation and perceived impact on

Shina. Illustrative excerpts are reported alongside the quantitative findings to preserve the interpretive richness of participants' own accounts

Ethical Considerations

The study received departmental ethical clearance prior to data collection. Participants were informed of the study's purpose, assured that participation was voluntary and that they could withdraw at any point, and given guarantees of anonymity and confidentiality. No identifying information is reported; illustrative participant excerpts are labeled with anonymized codes (e.g., P1, P2).

Validity and Reliability.

Instrument validity was supported through an extensive review of the code-mixing and language-maintenance literature during questionnaire design. Reliability was supported by administering a standardized instrument uniformly to all participants under comparable

conditions, reducing variation attributable to inconsistent administration.

Results

Patterns and Frequency of Code-Mixing.

Code-mixing was reported as a routine feature of participants' everyday speech: 91 of 100 respondents (91%) indicated that they mix English words into Shina conversation on a daily basis, most commonly in classroom discussion, peer conversation, and online messaging. Notably, 77% of participants reported using an English word even when they were aware of an equivalent Shina term, suggesting that convenience and habit, rather than genuine lexical gaps alone, drive a substantial share of code-mixing.

Commonly Used English Lexical Items.

Table 2 presents the distribution of code-mixed English lexical items by functional category, based on the frequency with which items in each category were volunteered by participants, and Figure 3 displays these results graphically.

Table 2

Categories of Frequently Used Code-Mixed English Lexical Items (N = 100)

Category	Example Items	n	%
Academic terms	assignment, study, library, attendance, application	79	79
Daily activities	lunch, breakfast, walk, wait	65	65
Personal appearance	dress, style, makeup, colour	57	57
Technology & communication	message, reply, phone, response	53	53
Emotions & feelings	tired, excited, confused, weak	47	47
Social interaction	help, inform, confirm, right	42	42

Note. Categories are not mutually exclusive; percentages reflect the proportion of respondents who reported using at least one item in that category.

Distribution of Code-Mixed English Lexical Items by Category

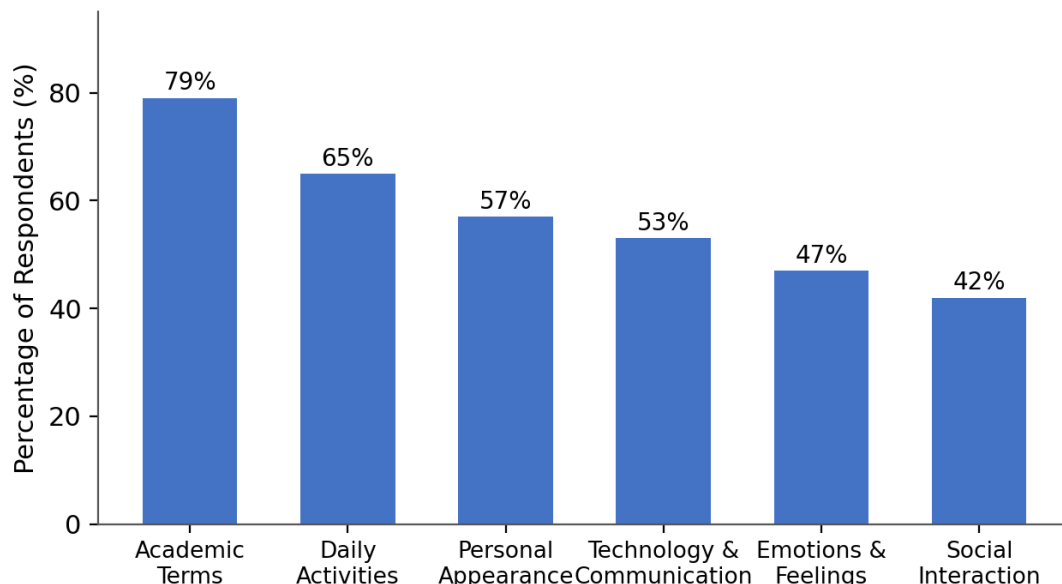


Figure 3. Distribution of code-mixed English lexical items by category (N = 100)

Academic vocabulary was the single largest category, consistent with English's role as the medium of instruction at KIU: students encounter and repeat terms like assignment, attendance, and library so consistently in academic settings that these words appear to have been absorbed into everyday Shina speech almost without students noticing the switch. Daily-activity and personal-appearance vocabulary formed the next largest cluster, suggesting that English penetration is not confined to formal academic contexts but has extended into casual, identity-adjacent domains—a pattern consistent with Yim and Clément's (2021) argument that second-language vocabulary can carry connotations of modernity and social prestige. Technology and

communication terms were similarly prominent, reflecting the near-total dominance of English in participants' digital lives, in line with Nordin's (2023) and Wirasa et al.'s (2025) findings on social-media-driven code-mixing. Emotion and social-interaction vocabulary, by contrast, showed comparatively lower—though still substantial—rates of mixing, a pattern that may indicate a domain of relative resilience for Shina, worth investigating further in future work.

Factors Motivating Code-Mixing

Participants identified several overlapping motivations for code-mixing (Table 3; Figure 4). Educational exposure was the most frequently cited factor, followed by social/peer interaction, lexical convenience, and technological influence.

Table 3

Factors Motivating Code-Mixing among Shina-Speaking Students (N = 100)

Motivating factor	n	%
Educational exposure (English as medium of instruction)	83	83
Peer interaction and social context	69	69
Convenience / habitual ease of recall	58	58

Motivating factor	n	%
Technology and social media use	55	55

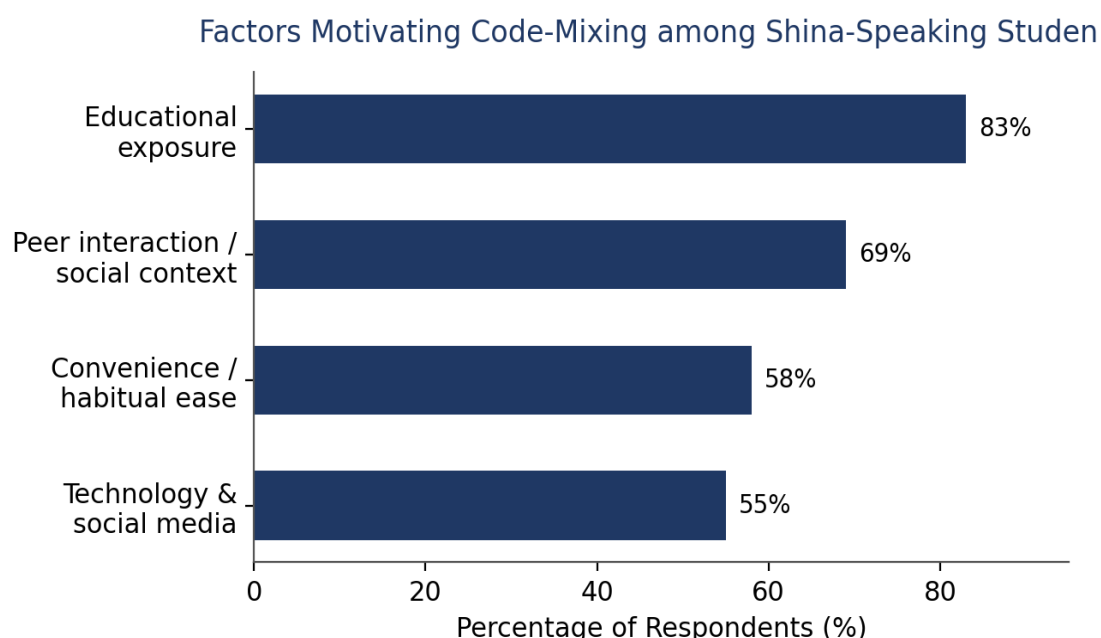


Figure 4. Factors motivating code-mixing among Shina-speaking students (N = 100)

One participant explained, “When I talk about university, English words just come first–Shina words feel slower to reach” (P14, female, 3rd year), a comment that captures the automaticity many respondents described. Another noted a more identity-linked motivation: “Using English shows I understand my studies well; it is not about forgetting Shina” (P27, male, 2nd year), echoing the identity-signaling function of code-mixing documented by Fatima and Kousar (2025).

Perceived Effects of Code-Mixing on Shina

Participants' views on the consequences of code-mixing were notably divided, and were not mutually exclusive—many respondents held both views simultaneously. A majority (73%)

described code-mixing positively, as a sign of bilingual competence and a practical communication tool. At the same time, 69% expressed concern that increasing reliance on English vocabulary could weaken the everyday use of Shina, particularly among younger speakers, while 11% reported no strong opinion either way (Figure 5). As one respondent put it, “We use English because it is easy, but I worry that our children will not know the Shina words we are slowly losing” (P8, female, 4th year). This tension—comfort with code-mixing as practice, paired with unease about its long-term consequences—was among the most consistent themes across open-ended responses, and is taken up further in the Discussion.

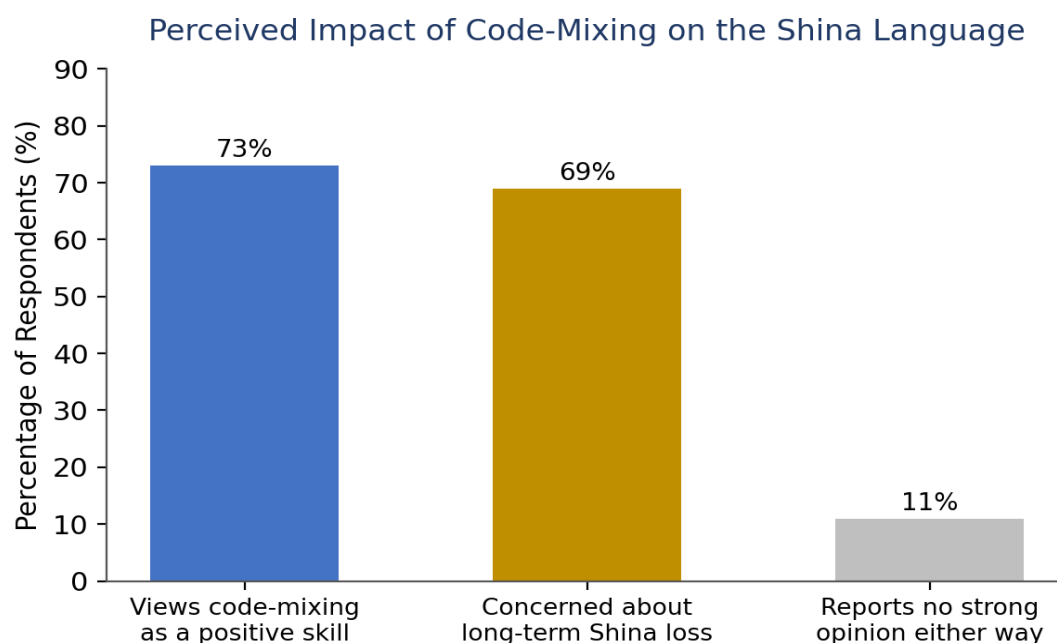


Figure 5. Perceived impact of code-mixing on the Shina language (N = 100). Categories are not mutually exclusive

Discussion

Three broader patterns emerge from these findings, each of which extends, rather than simply confirms, existing code-mixing research. First, the domain-specific distribution of code-mixing observed here—heavy in academic and technological vocabulary, lighter in emotional and interpersonal vocabulary—is consistent with what the Markedness Model would predict: English is the unmarked choice in domains institutionally associated with it (the classroom, digital devices), while Shina remains the unmarked choice in more intimate, affect-laden domains. This is a more precise account than simply noting that code-mixing is “common,” as much prior work has done (Ahmad et al., 2023; Tin et al., 2024); it suggests code-mixing is not uniformly eroding Shina but is concentrated in domains where English already holds institutional authority. Second, the co-existence of positive attitudes toward code-mixing with genuine anxiety about language loss complicates a purely functionalist reading of the practice. Where Albahoth et al. (2024) and Saleem and Usman (2025) emphasize communicative efficiency as the

primary driver of code-mixing, the present findings suggest that for speakers of a smaller, culturally central language like Shina, code-mixing is never merely efficient—it is also, simultaneously, a source of quiet linguistic worry. This distinguishes the Shina case from studies of code-mixing among speakers of larger languages (e.g., Moradi & Chen, 2022, on Chinese-English bilinguals), where the source language is not itself perceived as vulnerable. Third, and consistent with Weinreich's (1953) original account, the concentration of English borrowing in academic and technological domains directly reflects where sustained contact is most intense—the classroom and the smartphone. This lends empirical support to the theory's core claim while extending it: contact does not affect all domains of a language equally, and the domains most exposed to institutional contact are the ones where lexical transfer concentrates first. Whether this pattern eventually spreads into more intimate domains of Shina vocabulary—as some participants feared—is an empirical question this cross-sectional design cannot answer, but one that

longitudinal or intergenerational research could usefully address.

Taken together, these findings suggest that the relationship between code-mixing and language maintenance is neither straightforwardly benign nor straightforwardly threatening. Rather than treating English proficiency and Shina vitality as a zero-sum trade-off, the evidence here points toward a more domain-specific coexistence—one that nonetheless carries real risk if institutional domains of contact continue to expand without deliberate support for Shina in the same spaces.

Limitations

Several limitations should be acknowledged. The sample was drawn from a single university using purposive sampling, which limits generalizability to other Shina-speaking communities or educational settings. Data on code-mixing patterns relied on self-report rather than naturalistic observation or recording of actual speech, meaning the study captures students' perceptions of their own language use rather than directly observed usage; future work incorporating recorded or transcribed conversation would allow more precise linguistic analysis of switching points and structural patterns. The cross-sectional design also precludes any claim about change over time, and although the larger sample ($N = 100$) improves on earlier work in this setting, subgroup comparisons (e.g., by gender or department) are reported here descriptively rather than inferentially.

Conclusion and Recommendations

This study examined how, why, and with what perceived consequences Shina-speaking students at Karakoram International University mix English into their everyday speech. The findings confirm that code-mixing is pervasive, concentrated in academic and technological domains, and driven primarily by educational exposure, peer interaction, and habitual convenience. Importantly, students do not view this practice uncritically: alongside recognizing its communicative value, a clear majority expressed concern about its long-term

implications for the vitality of Shina vocabulary. Read through Weinreich's Language Contact Theory and Myers-Scotton's Markedness Model, these patterns suggest that English is becoming the unmarked code in institutionally dominated domains, while Shina retains stronger footing in more personal and affective domains, for now.

On the basis of these findings, three recommendations follow. First, university language policy could explore structured opportunities for academic discussion in Shina alongside English—for example, informal peer study groups or cultural events conducted in Shina—to counterbalance the near-total English dominance of academic vocabulary. Second, community and family-level initiatives that reinforce Shina vocabulary in domains where it remains strong (home, emotional expression) could help anchor intergenerational transmission even as English continues to expand in institutional life. Third, future research should move beyond self-report toward recorded, naturalistic speech data, and ideally toward longitudinal designs capable of tracking whether the domain-specific pattern observed here holds, narrows, or expands over time. Ultimately, the goal implied by these findings is not to discourage English proficiency, which remains essential for students' academic and professional futures, but to ensure that its growth does not come at the unexamined expense of Shina's continued vitality as a living, spoken language.

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