

Exploring Cross-linguistic Influence in Chinese and American Contexts: A Literature Review of Language Transfer and Reverse Transfer in Second Language Acquisition

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Abstract. Language transfer is a central and enduring research issue in second language acquisition. Existing domestic studies predominantly focus on unidirectional Chinese-to-English forward transfer in classroom settings, while neglecting the reverse reshaping influence of English on the native language among bilinguals in immersive overseas contexts. Against this research gap, the present review adopts Contrastive Analysis Hypothesis and Interlanguage Theory to construct a comparative framework of bidirectional cross-linguistic influence between Chinese and English. By comparing Chinese EFL learners in domestic monolingual environments and Chinese American heritage speakers in English-dominant contexts, this study contrasts lexical and syntactic features of forward and reverse transfer and further explores their underlying cognitive mechanisms and social contextual drivers. The results reveal distinct transfer patterns: forward transfer is low-threshold, context-dependent, and prone to fossilization due to insufficient authentic input, whereas reverse transfer derives from long-term L2 dominance and leads to irreversible native language attrition. This paper contributes a unified comparative perspective on bidirectional language transfer and provides theoretical and practical support for both college English teaching and heritage Chinese language education.

Keywords: Language transfer, Reverse transfer, second language acquisition, cross-linguistic influence, Sino-American acquisition contexts

1. Introduction

Lado's Contrastive Analysis Hypothesis and Selinker's interlanguage theory establish that language transfer is a fundamental component of second language acquisition [1, 2]. Two typical Chinese-English bilingual learning environments have attracted consistent academic attention. They are domestic monolingual classroom teaching for Chinese college students and immersive bilingual living environments for Chinese American communities. These two distinct contexts generate divergent cross-linguistic transfer patterns, forming the fundamental research background of this study.

The selection of these two research groups possesses comparative rationality based on linguistic homogeneity and environmental heterogeneity. In terms of linguistic comparability, both domestic Chinese college students and Chinese American heritage speakers take Chinese as their first language and acquire English as a second language. From the perspective of initial language cognition, they form a pair of typical groups for comparative observation. It should be acknowledged that the two cohorts still have differences in family language atmosphere, educational experience and social background. This study focuses primarily on the discrepancy of social linguistic environments and treats these other variables as uncontrolled factors. In terms of environmental heterogeneity, domestic learners are situated in a Chinese-dominant monolingual society where English is merely an examination-oriented academic subject with limited practical usage. In contrast, Chinese Americans reside in an English-dominant mainstream society, where English functions as the primary tool for social integration, academic development and daily communication, while Chinese is marginalized as a family-only heritage language. This contrast in language ecology provides an ideal quasi-experimental condition to explore how social linguistic environments reshape cross-linguistic influence mechanisms.

Existing domestic empirical studies mainly focus on unidirectional forward transfer. Scholars have verified that linguistic and cultural similarities between Chinese and English produce positive transfer to facilitate learning, while structural mismatches trigger persistent negative transfer errors, which easily develop into interlanguage fossilization without effective intervention [3]. In contrast, overseas studies highlight prominent reverse transfer phenomena, including Europeanized Chinese expressions and systematic native language attrition among long-term overseas bilinguals [4, 5].

Nevertheless, current academic research presents an obvious separation dilemma. Domestic studies only discuss forward transfer for local English teaching, while overseas research independently explores heritage language loss. Few scholars construct a unified comparative framework to systematically distinguish the surface manifestations and deep operating mechanisms of the two transfer types. Accordingly, this paper proposes its core research question: What are the disparities in observable linguistic manifestations and internal cognitive operating mechanisms between Chinese-to-English forward cross-linguistic transfer generated in domestic monolingual English classrooms and English-to-Chinese reverse cross-linguistic transfer formed within U.S. immersive heritage Chinese bilingual environments?

This study adopts a literature review method to synthesize bidirectional cross-linguistic interaction rules. It theoretically compensates for the fragmented research perspective in existing studies and practically provides targeted teaching strategies for reducing negative transfer in domestic classrooms and alleviating native language attrition in overseas heritage Chinese education.

2. Comparative analysis of bidirectional language transfer in Sino-American contexts

2.1. Unidirectional positive and negative transfer from Chinese to English in domestic classroom context

2.1.1. Linguistic manifestations of L1 forward transfer

Language transfer is the most stable cognitive feature in domestic second language acquisition. Chinese college students have already formed a complete and fixed Chinese cognitive system before systematic English learning. Restricted by the single classroom teaching mode and lack of authentic

social English scenarios in domestic monolingual environments, learners rely heavily on native language thinking in the whole process of English input and output.

At the linguistic level, native Chinese influence generates both positive and negative transfer throughout the learning trajectory. Positive transfer reduces cognitive load and learning difficulty based on linguistic universals, while negative transfer caused by language differences produces repetitive grammatical errors and hinders interlanguage standardization.

Beneath these linguistic phenomena lies unique social educational logic. For domestic learners, English is positioned as a compulsory academic course rather than a social communication tool. There is no real social motivation to reshape native language cognition or adapt to English linguistic logic. Therefore, Chinese always occupies an absolutely dominant cognitive position, resulting in unidirectional native-to-target-language transfer without any observable reverse influence on the mother tongue.

2.1.2. Empirical analysis of classroom transfer phenomena

According to the Contrastive Analysis Hypothesis, second language acquisition difficulty is largely determined by the similarity and disparity between L1 and L2 rules [1]. Linguistic overlaps trigger automatic positive transfer. At the lexical level, basic nouns and verbs with consistent semantic connotations between Chinese and English form stable corresponding relationships, significantly improving learners' memorization efficiency. At the syntactic level, the shared SVO word order ensures high accuracy in learners' simple sentence output, forming a typical positive transfer effect.

Conversely, linguistic differences lead to dominant negative transfer. Lexical false friends cause habitual collocation errors. For instance, the Chinese morpheme *jieshao* corresponds to two distinct English verbs *introduce* and *recommend*, and *xuexi* confuses the usage of *study* and *learn*. Cross-linguistic associations between phonological, lexical, and grammatical domains have been observed in Mandarin-English bilingual preschoolers, suggesting that semantic interference across the two languages may affect lexical processing among L2 learners [6]. Such interference can further trigger habitual collocation errors for Chinese EFL learners.

Syntactic negative transfer is more prominent. As a paratactic language, Chinese lacks morphological changes, tense inflections and article systems, while English strictly follows hypotactic formal logic. Affected by Chinese thinking, learners frequently omit plural markers and tense changes and produce run-on sentences lacking explicit connectives. Such grammar-related negative-transfer errors are widely observed in Chinese EFL learners' written production, and may become persistent interlanguage problems without effective instructional intervention. The role of cultural factors in shaping language transfer patterns has been widely acknowledged in SLA research [3].

Within the framework of interlanguage theory, classroom-only learning contexts may encourage persistent L1 influence during L2 acquisition [2, 7]. Without immersive English input and social language practice, negative transfer errors cannot be fundamentally eliminated, gradually forming stable interlanguage fossilization. The essential reason for fossilization is not merely linguistic differences, but the disconnection between classroom learning and real social language application, resulting in the absence of external correction motivation.

2.2. Reverse language transfer pathway from English to Chinese in U.S. immersive bilingual settings

2.2.1. Overall characteristics of reverse transfer

Cross-linguistic influence is not limited to unidirectional L1-to-L2 transfer. In second-language-dominant bilingual environments, long-term dominant use of English will restructure learners' native Chinese system and produce stable reverse transfer [4]. For Chinese American bilinguals, English is the mainstream language for schooling, socialization and career development, while Chinese is only used in limited family scenarios. The drastic imbalance of language input frequency and social application status fundamentally changes bilingual cognitive structures.

Different from the temporary and weak reverse transfer in domestic environments, overseas reverse transfer is a stable linguistic feature shaped by long-term environmental influence. The core social motivation behind this phenomenon is mainstream social integration. Chinese American youth actively adopt English dominant usage to adapt to local peer groups and social norms, leading to the gradual marginalization of native Chinese rules in cognitive operation.

2.2.2. Cognitive and empirical evidence of reverse transfer

Pavlenko argues that when L2 surpasses L1 as the dominant communication medium, second-language rules may continuously reshape native-language internal representations [4]. At the lexical level, long-term English immersion leads to Europeanized Chinese collocations and direct code-switching. Traditional concise Chinese expressions are replaced by literal English translation structures, forming redundant and Westernized lexical habits [5].

At the syntactic level, English hypotactic logic profoundly remodels Chinese syntactic thinking. English subordinate clause postposition and dense connective dependence gradually change Chinese's paratactic implicit cohesion. Overseas bilinguals tend to produce lengthy modified sentences and stacked subordinate clauses that violate traditional Chinese structural characteristics [8].

Reverse transfer is frequently accompanied by native language attrition in language-contact contexts [9]. Such attrition can also be observed among Chinese-American heritage speakers due to insufficient standardized L1 input and corrective feedback within American mainstream society [5]. Different from domestic temporary learning errors, overseas reverse transfer cannot be eliminated through simple correction training. It forms fixed bilingual characteristics and may lead to far-reaching reconstruction of the native language system [10].

2.3. A comparative analysis of the underlying mechanisms of two types of language transfer

2.3.1. Core disparities of transfer mechanisms

The essential differences between forward and reverse transfer originate from opposite language dominance relationships and social ecological environments. Domestic monolingual contexts maintain absolute L1 dominance, forming unidirectional forward transfer. American bilingual environments form L2 dominance and L1 marginalization, producing stable reverse transfer. The two transfer modes operate with distinct driving logic, activation conditions and developmental outcomes [11, 12].

On a deeper sociolinguistic level, the dichotomy between forward and reverse transfer cannot be fully explained merely by input frequency and daily communicative contexts. Instead, their fundamental discrepancies stem from differentiated sociolinguistic functionality, unequal social prestige of two languages, and divergent bilingual cognitive operating modes. Whether a language occupies a dominant or marginalized position in public social cognition and daily practical usage fundamentally governs the direction and irreversibility of cross-linguistic influence. Domestic English only carries academic examination functions with low social prestige, while English in the U.S. bears full social, educational and professional functions with high mainstream status, which lays the essential foundation for the emergence of stable reverse transfer among Chinese American bilinguals [5].

2.3.2. Three-dimensional mechanism comparison

In terms of driving sources, forward transfer relies on mature native language cognitive frameworks with an ultra-low activation threshold, which automatically participates in all stages of second language acquisition regardless of L2 input quality. In contrast, reverse transfer depends on long-term bilingual cognitive restructuring, which can only occur when second language use reaches absolute dominance in daily life [8].

In terms of evolutionary results, cross-linguistic transfer patterns are understood to be dynamic and responsive to pedagogical interventions [7]. Accordingly, forward-transfer outcomes may be modulated through instructional design and increased L2 exposure. However, reverse transfer is highly irreversible. Long-term English dominance continuously erodes native language proficiency, and the changed syntactic and lexical habits cannot be fully restored through short-term remediation [5].

In terms of influence scope, forward transfer only acts on second language output quality and never changes native language structures. Reverse transfer directly reshapes the inherent rules of the mother tongue, forming a hybrid variant language system with obvious second-language characteristics [10]. Empirical evidence among Mandarin-English bilinguals further indicates that backward transfer is associated with shifts in L1 lexical performance and syntactic output patterns under dominant-L2 conditions [13].

Existing literature mostly separates the two transfer modes for independent research and lacks horizontal comparative analysis under controlled homogeneous learner conditions. This research gap leads to insufficient exploration of the essential logical differences between bidirectional cross-linguistic influence, which this review effectively supplements.

The distinctions between forward and reverse transfer across the three dimensions can be summarized in the following table.

Table 1. Three-dimensional mechanism comparison between forward and reverse language transfer

Dimension	Forward Transfer (Chinese-to-English)	Reverse Transfer (English-to-Chinese)
Driving Sources	Derives from learners' inherent L1 cognitive frameworks with an ultra-low activation threshold. It operates automatically in L2 learning regardless of external L2 input quality.	Results from long-term dominance of the second language. It occurs only when English becomes the dominant language in daily communication, triggering systematic cognitive restructuring.

Table 1. (continued)

Evolutionary Characteristics	Reversible and adjustable through instructional intervention and standardized L2 input. Negative transfer errors may fossilize due to insufficient authentic social language practice.	Highly irreversible. Long-term L2 dominance gradually weakens native linguistic competence, and modified lexical and syntactic patterns cannot be easily restored through short-term training.
Influence Scope	Only affects learners' second language output quality. It does not change the inherent structural rules of the learners' native Chinese system.	Reshapes the fundamental lexical, syntactic, and cognitive mechanisms of the native language, forming a stabilized bilingual linguistic system with prominent L2 features and persistent native language attrition.

3. Pedagogical implications

This study innovatively constructs a Sino-American bidirectional transfer comparative framework, solving the research defect of fragmented independent discussion in previous literature. Theoretically, it clarifies the essential mechanism differences between two types of cross-linguistic influence. Practically, targeted pedagogical enlightenment can be drawn for two distinct language education contexts.

For domestic college English teaching, instructors should fully exploit positive cross-linguistic transfer derived from shared Chinese-English linguistic features. Meanwhile, contextualized real-life language training tasks ought to be designed to compensate for insufficient authentic input in exam-oriented classroom environments, so as to restrain the formation of interlanguage fossilization triggered by long-term negative transfer.

For overseas heritage Chinese education among Chinese American communities, educators need to provide standardized, systematic native language input on a regular basis. Sufficient normative Chinese exposure can effectively mitigate irreversible first language attrition and curb excessive reverse transfer that reshapes the inherent lexical and syntactic rules of Mandarin.

4. Conclusion

This review systematically contrasts bidirectional cross-linguistic transfer phenomena under two typical Sino-American learning ecologies and clarifies their essential operational discrepancies. Rather than linguistic similarity, language dominance, input frequency, and social integration motivation fundamentally determine the direction, intensity, and reversibility of cross-linguistic influence. Forward transfer in domestic classroom contexts is a reversible L1-driven cognitive tendency that easily stabilizes as fossilized errors due to disconnection from real social language use. In comparison, reverse transfer among overseas bilinguals results from long-term second-language cognitive dominance, which structurally and irreversibly reshapes native linguistic systems and triggers persistent language attrition.

The established comparative framework effectively resolves the fragmented discussion of bidirectional transfer in previous literature and yields targeted pedagogical implications for EFL classroom instruction and heritage language maintenance.

This study still presents certain limitations. Most existing empirical evidence relies on cross-sectional data, lacking dynamic longitudinal tracking of bilingual language development. Future research can further explore how individual bilingual motivation and sociolinguistic attitudes moderate cross-linguistic transfer effects in different language environments.

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