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Reframing Structural–Cognitive Mismatch in Chinese–English Language Learning

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Abstract: This review examines research on Chinese–English structural–cognitive mismatch in second and foreign language learning. Although previous studies have documented key structural contrasts—such as parataxis versus hypotaxis, topic- versus subject-prominence, and differences in tense–aspect systems—these features are often analyzed independently of the sociocognitive orientations underlying their use. Synthesizing studies from applied linguistics, second language acquisition, and intercultural communication, the review identifies three dominant research strands: structurally focused accounts with limited cognitive explanation; cognitively oriented studies weakly anchored in linguistic structure; and emerging sociocognitive approaches that seek integration but remain methodologically fragmented. The review further reveals a persistent imbalance in research attention, with a strong focus on Chinese learners of English and far fewer studies on English learners of Chinese. This unidirectional orientation constrains theoretical interpretation and obscures symmetrical patterns of structural–cognitive adaptation. To address these limitations, the review argues for a bidirectional sociocognitive framework in which linguistic structure is understood as the external manifestation of culturally shaped cognition. It concludes by outlining key principles for future research aimed at developing a more integrated and explanatory account of Chinese–English language learning.

Keywords: Chinese–English contrast; Structural–cognitive mismatch; Sociocognitive perspective; Parataxis and hypotaxis; Bidirectional language learning; Intercultural communication

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1. Introduction

Differences between Chinese and English have long been a central concern in applied linguistics, second language acquisition, and intercultural communication. Owing to their distinct typological profiles, the two languages are often treated as representative of contrasting linguistic systems. Chinese is typically characterized as paratactic, topic-prominent, and context-dependent, whereas English is described as hypotactic, subject-prominent, and structurally explicit. These contrasts have made Chinese–English comparison a productive site for examining cross-linguistic influence, learner error patterns, and pedagogical challenges in both EFL and CFL contexts [1–5].

Over decades of research, structural differences between Chinese and English have been extensively documented at lexical, syntactic, and discourse levels. Recurrent findings include tense–aspect omission and article-related difficulty among Chinese learners of English, as well as challenges faced by English learners of Chinese in acquiring topic–comment constructions, classifiers, and flexible word order. Such studies have provided valuable descriptive insights and informed instructional practices, leading structural contrast to be widely treated as a primary explanatory framework for learner difficulty [6,7].

Yet learner difficulty in Chinese–English acquisition remains only partially explained. Similar structural contrasts are repeatedly reported, but learners' errors, avoidance behaviors, and processing patterns vary in ways that cannot be accounted for by linguistic form alone. Structurally complex features do not consistently generate greater difficulty, nor do learners respond uniformly to explicit instruction targeting the same grammatical forms. These patterns suggest that structural difference, while necessary for identifying points of contrast, is insufficient as a standalone explanation of how learners perceive, process, and internalize language [8].

In response, a growing body of research has turned to cognitive and cultural explanations, invoking constructs such as holistic versus analytic thinking and high- versus low-context communication. While these perspectives enrich understanding by situating language learning within broader sociocultural frameworks, they often remain weakly connected to specific linguistic structures. Cognitive orientations are frequently introduced as post hoc explanations rather than systematically linked to particular grammatical phenomena, leaving the structure–cognition relationship under-theorized.

As a result, the literature is marked by fragmentation. Structural studies tend to prioritize formal description with limited cognitive engagement, whereas cognitively oriented studies operate at a macro level with insufficient structural anchoring. Even sociocognitive approaches that seek integration often suffer from methodological inconsistency and a narrow scope. This fragmentation is further compounded by a persistent unidirectional focus on Chinese learners of English, with comparatively fewer studies examining English learners of Chinese, thereby constraining theoretical interpretation [9–12].

These limitations give rise to a central question: why do structural descriptions alone fail to explain learner difficulty in Chinese–English language learning? Addressing this question requires moving beyond assumptions of a direct mapping between form and difficulty, and toward an examination of how linguistic structures interact with culturally shaped cognitive orientations during acquisition.

Against this background, the present review argues that learner difficulty in Chinese–English acquisition can only be adequately explained by reconceptualizing linguistic structure as the external manifestation of sociocognitive orientation. By critically synthesizing existing research, the review clarifies the limits of structure-only explanations and outlines the need for a more integrated, bidirectional sociocognitive account of Chinese–English structural–cognitive mismatch.

2. Structural accounts of Chinese–English differences

A dominant strand of research on Chinese–English contrast has focused on structural description, aiming to identify typological differences at syntactic and discourse levels and to link these contrasts to learner difficulty. Within this tradition, Chinese and English are frequently portrayed as structurally divergent systems whose differences can be systematically mapped through grammatical comparison. Two of the most widely discussed dimensions in this literature are parataxis versus hypotaxis and topic–comment versus subject–predicate organization.

2.1. Parataxis versus hypotaxis

One of the most frequently cited distinctions between Chinese and English concerns their respective preference for paratactic and hypotactic structures. Chinese discourse is commonly described as relying on semantic association and contextual inference, with meaning constructed through juxtaposition rather than overt grammatical marking. English, by contrast, encodes logical relations explicitly through conjunctions, subordination, tense–aspect morphology, and syntactic embedding [13].

Structural studies based on this contrast have documented recurring learner difficulties. English learners of Chinese often struggle with the absence of overt connectives and inflectional cues, whereas Chinese learners of English show persistent difficulty with tense–aspect marking, subordination, and clause hierarchy. These findings have contributed to pedagogical approaches that emphasize explicit instruction in grammatical relations and connective devices.

Yet despite its descriptive value, the parataxis–hypotaxis distinction remains limited as an explanatory framework. It is typically treated as a static typological contrast, with insufficient attention to how learners cognitively engage with and adapt to different modes of meaning organization. As a result, parataxis and hypotaxis function more as labels for cross-linguistic difference than as analytically grounded accounts of how learners process information, construct coherence, and prioritize meaning in language use [14–17].

2.2. Topic–comment versus subject–predicate organization

Another influential line of structural research contrasts Chinese as a topic-prominent language with English as a subject-prominent one. In Chinese, discourse coherence is typically maintained through topic continuity, allowing topics to be introduced, omitted, or resumed across clauses with relatively loose syntactic constraints. English, by contrast, prioritizes grammatical subjects, requiring explicit subject–predicate alignment and syntactic completeness.

Studies adopting this framework have documented recurrent learner difficulties. English learners of Chinese often struggle with topic chains, null arguments, and flexible word order, whereas Chinese learners of English frequently produce subject omission, redundant topicalization, or constructions that appear pragmatically coherent but syntactically incomplete from an English perspective. Such findings have reinforced the view that differences in clause organization play a central role in shaping learner output and error patterns.

However, as with the parataxis–hypotaxis distinction, topic–comment versus subject–predicate contrasts are often treated as formal oppositions rather than explanatory mechanisms. Analyses typically remain at the level of grammatical configuration, offering limited insight into why learners persist in topic-based organization despite explicit instruction in subject-centered syntax, or why certain topic-related patterns resist correction. In this way, learners are implicitly portrayed as transferring surface structures, rather than as operating within deeply entrenched modes of organizing attention and information.

2.3. Limits of structure-only explanations

Structural accounts of Chinese–English differences have been valuable in systematizing typological contrasts and identifying recurrent learner difficulties. However, they largely conceptualize structure as an autonomous linguistic layer, detached from the cognitive and sociocultural processes that shape language use. As a result, structural features are treated as forms to be acquired rather than as manifestations of underlying cognitive orientation.

This perspective has clear explanatory limits. It cannot adequately explain variation in learner difficulty

under similar learning conditions, nor can it account for learner strategies such as avoidance or selective reliance on familiar constructions. By prioritizing form over process, structure-centered accounts tend to frame learner difficulty as a grammatical deficit rather than a cognitive reorientation.

Consequently, structural description alone is insufficient for explaining how Chinese–English differences become learning difficulties in practice. Without integrating cognition, such accounts remain at the level of surface contrast, mapping differences without explaining their experiential or developmental impact. This limitation points to the need for approaches that reconceptualize linguistic structure as the outward expression of culturally shaped cognition.

3. Cognitive and cultural explanations without structural anchoring

In response to the limits of structure-centered accounts, a parallel line of research has turned to cognitive and cultural explanations of learner difficulty in Chinese–English language learning. Drawing on cross-cultural psychology and intercultural communication, this work characterizes Chinese and English in terms of contrasting cognitive orientations, such as high- versus low-context communication and holistic versus analytic thinking.

These perspectives shift attention from linguistic form to culturally shaped cognition and challenge purely formal explanations of learning difficulty. However, cognitive and cultural constructs are often introduced at a macro level and remain weakly connected to specific linguistic structures. As a result, cognition frequently functions as a generalized explanatory label rather than an analytically grounded mechanism.

This lack of structural anchoring limits explanatory precision. Cognitive explanations are commonly applied post hoc, used to rationalize learner behavior without specifying how particular cognitive orientations give rise to specific grammatical patterns. Moreover, treating cognition as a stable cultural trait obscures learner variability and developmental change, reducing cognition to a background attribute rather than a dynamic process in acquisition.

Consequently, although cognitive and cultural approaches successfully problematize structure-only accounts, they often remain detached from the linguistic forms they seek to explain. The resulting divide—between structural description without cognition and cognitive explanation without structure—contributes to the fragmentation of the field and underscores the need for approaches that systematically link cognitive orientation to concrete linguistic structure [18].

4. Emerging sociocognitive approaches: Progress and gaps

Recent research has sought to bridge structural description and cognitive explanation by adopting sociocognitive, usage-based, and discourse-oriented perspectives. These approaches share the view that linguistic structure emerges from language use shaped by cognition and social interaction, marking a shift away from purely formal or purely cultural accounts of Chinese–English language learning.

Sociocognitive approaches treat grammatical patterns as outcomes of culturally mediated ways of organizing meaning, while usage-based studies emphasize the role of experience, frequency, and entrenchment in shaping form–meaning mappings. Discourse-oriented work further situates structure within interaction, highlighting how coherence and information flow are managed beyond the sentence level. Together, these perspectives reconceptualize learner difficulty as cognitive adaptation to unfamiliar modes of meaning organization rather than as grammatical deficit alone.

Despite this theoretical progress, existing work remains limited in several respects. First, methodological fragmentation persists: sociocognitive, usage-based, and discourse-based studies rely on different data types and analytical units, with little systematic integration. Second, research continues to be dominated by unidirectional designs focusing on Chinese learners of English, which constrains interpretation by treating English as the implicit norm. Third, many studies lack structural specificity, discussing cognition without systematically mapping cognitive orientations onto particular grammatical or discourse structures [19–21].

To address these limitations, this review conceptualizes linguistic structure as the external manifestation of sociocognitive orientation shaped through language socialization and use. As illustrated in Figure 1, sociocultural context informs cognitive orientation, which guides structural preference and, in turn, shapes learner processing and output. Within this view, contrasts such as parataxis versus hypotaxis and topic–comment versus subject–predicate organization are understood as structurally instantiated outcomes of culturally patterned cognition rather than isolated typological features.

Recognizing both the contributions and the limits of existing sociocognitive approaches is therefore essential for advancing a more coherent and explanatory account of Chinese–English structural–cognitive mismatch.

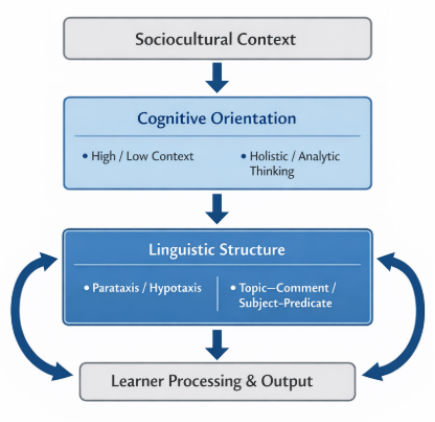

Figure 1. Integrating sociocultural context, cognitive orientation, and linguistic structure in Chinese–English language learning.

Figure 1 depicts a layered relationship in which sociocultural context shapes cognitive orientation, which in turn informs linguistic structural preferences (e.g., parataxis/hypotaxis; topic–comment/subject–predicate). These structural preferences influence learner processing and output, forming a dynamic feedback loop rather than a linear hierarchy.

5. The problem of unidirectionality in existing research

Despite growing interest in structural–cognitive explanations of Chinese–English language learning, the literature remains marked by a persistent unidirectional bias. Most studies focus on Chinese learners of English, implicitly positioning English as the normative target and Chinese as the primary source of deviation. Research on English learners of Chinese, by contrast, occupies a marginal role and is rarely integrated into core theoretical discussions.

This asymmetry limits explanatory power. Within an EFL-dominated framework, learner difficulty is commonly framed as negative transfer from Chinese to English, while English structures remain largely uninterrogated as culturally or cognitively patterned. As a result, learner errors are often interpreted in deficit terms, relative to an assumed universal norm.

Such unidirectionality obscures the source of learner difficulty. Without examining both learning directions, it is difficult to determine whether observed patterns reflect language-specific structural demands or broader cognitive orientations shaping meaning construction across languages. Sociocognitive explanations are particularly constrained under these conditions, as cognition risks being localized to the learner rather than recognized as a property of both linguistic systems.

Evidence from studies on English learners of Chinese, though limited, reveals parallel difficulties that challenge one-sided interpretations. These learners struggle with features such as topic prominence and contextual dependence not simply because of structural complexity, but because such patterns conflict with entrenched expectations about explicitness and grammatical completeness. The symmetry of these difficulties suggests that learner challenge arises from structural–cognitive mismatch rather than from deficiencies associated with a particular first language.

A bidirectional research design therefore constitutes a necessary corrective. Examining both Chinese learners of English and English learners of Chinese within a shared analytical framework allows for clearer differentiation between structural constraints and cognition-driven tendencies. Without such a perspective, accounts of Chinese–English language learning remain partial and asymmetrical. Addressing unidirectionality is thus not merely a matter of research balance, but a prerequisite for developing explanatory models of structural–cognitive mismatch as a general phenomenon.

Table 1. Distribution of research focus in Chinese–English structural studies

Learner Direction	Typical Research Focus	Dominant Explanatory Orientation	Key Limitation
Chinese → English (EFL)	Tense–aspect marking, articles, subordination, clause hierarchy	L1 transfer; culturally shaped cognition as source of difficulty	English treated as implicit norm; deficit-oriented interpretation
English → Chinese (CFL)	Topic prominence, classifiers, ellipsis, word order flexibility	Structural complexity; pedagogical difficulty	Cognitive orientation under-theorized; limited integration with sociocognitive models
Bidirectional (Chinese ↔ English)	Comparative adaptation patterns; structural–cognitive interaction	Sociocognitive alignment and mismatch	Still underrepresented; methodological integration incomplete

6. Toward an integrated sociocognitive framework

The preceding review has shown that neither structural description nor cognitive explanation alone is sufficient to account for learner difficulty in Chinese–English language learning. Structural accounts offer detailed mappings of typological contrast but remain limited in explanatory depth, while cognitive and cultural approaches provide compelling insights yet often lack systematic connection to linguistic form. Emerging sociocognitive perspectives represent an important step toward integration, but their explanatory potential has been constrained by methodological fragmentation, unidirectional focus, and insufficient structural anchoring. To move beyond these limitations, a more principled and coherent framework is required.

At the core of such a framework lies a reconceptualization of linguistic structure. Rather than treating structure as an autonomous layer of grammar, this review proposes that linguistic structure be understood as the external manifestation of sociocognitive orientation shaped through culturally situated language use. From this perspective, recurrent structural patterns—such as preferences for parataxis or hypotaxis, topic–comment or subject–predicate organization—are not arbitrary formal choices, nor merely typological features to be mastered.

They are the sedimented outcomes of habitual ways of attending to information, organizing experience, and constructing meaning within specific sociocultural environments.

This reconceptualization shifts the focus of explanation from surface-level difference to cognitive–structural alignment. Learner difficulty arises not simply because two languages differ structurally, but because learners must reorient deeply entrenched cognitive habits in order to accommodate alternative modes of meaning organization. Structural–cognitive mismatch, in this sense, reflects a process of cognitive adaptation rather than a static problem of grammatical transfer. Understanding this process requires research designs that are theoretically explicit, methodologically integrated, and analytically balanced [22].

Based on the critical synthesis presented in this review, future research on Chinese–English language learning should adhere to at least three interrelated principles.

(1) The first principle is structural specificity. Cognitive explanations must be anchored in clearly defined linguistic structures rather than operating at a purely abstract level. Broad constructs such as holistic thinking or high-context communication gain explanatory value only when they are systematically linked to concrete grammatical and discourse features, including tense–aspect marking, clause linkage, information structure, and reference management. Without such specificity, cognition risks becoming a general interpretive backdrop rather than an analytically operative concept.

(2) The second principle is cognitive grounding. Structural analyses, in turn, should not treat grammatical patterns as self-explanatory formal entities. Instead, they must engage explicitly with the cognitive orientations that motivate learners' preferences, strategies, and resistance to particular forms. This entails moving beyond deficit-oriented accounts of learner error toward process-oriented analyses that examine how learners perceive, prioritize, and reorganize meaning under cross-linguistic pressure. Cognitive grounding thus transforms structure from a descriptive endpoint into an explanatory bridge between form and experience.

(3) The third principle is bidirectional design. Explanatory adequacy cannot be achieved through unidirectional research alone. Investigating Chinese learners of English without parallel attention to English learners of Chinese inevitably reproduces asymmetrical assumptions about normativity and deviation. A bidirectional perspective enables researchers to identify symmetrical patterns of adaptation and resistance, revealing which difficulties are language-specific and which reflect broader sociocognitive orientations. Such designs are essential for developing theories that account for structural–cognitive mismatch as a general phenomenon rather than a one-sided learning problem.

Taken together, these principles point toward an integrated sociocognitive framework in which structure, cognition, and sociocultural context are analytically inseparable. Within this framework, linguistic structure functions as a visible trace of cognitive orientation, cognition operates as a dynamic mediator between language and experience, and sociocultural context provides the conditions under which both are shaped and negotiated. Importantly, this framework does not replace structural or cognitive approaches; rather, it repositions them within a unified explanatory model that clarifies their respective roles and limitations.

By articulating these principles, the present review aims not merely to summarize existing research, but to offer a corrective orientation for future inquiry. An integrated sociocognitive framework grounded in structural specificity, cognitive grounding, and bidirectional design holds the potential to transform Chinese–English contrast from a catalog of differences into a coherent explanatory account of how learners navigate structural–cognitive mismatch in bilingual development.

Disclosure statement

The authors declare no conflict of interest.

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