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Cross-Linguistic Influence: Linguistic Variables or Acquisitional Preferences?

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ABSTRACT

Cross-linguistic influence (CLI) remains a central focus in second language acquisition (SLA), particularly in understanding how first language (L1) conceptual structures shape the perception and acquisition of second language (L2) features. Traditional models of SLA typically emphasize structural mismatches and the frequency of exposure, but often overlook the role of learner agency in conceptual restructuring. This study introduces the concept of acquisitional preferences, which refers to the idea that learners selectively attend to, retain, or overlook certain conceptual features in the L2, based on internalized priorities shaped by cognitive economy, communicative value, or perceived relevance. Synthesizing findings across studies of lexical, grammatical, and conceptual transfer, this theory-building review identifies consistent patterns and theoretical gaps in how conceptual transfer interacts with learner-driven selectivity. The findings of this study suggest that traditional linguistic variables – such as proficiency and input frequency – alone are insufficient to explain L2 conceptual restructuring fully. This study proposes a framework of acquisitional preferences that helps account for persistent inconsistencies in SLA, particularly in cases where learners resist restructuring despite substantial exposure. This model positions learners as active participants in shaping their acquisition pathways and offers a foundation for future empirical research using qualitative methods. Ultimately, it supports the development of more nuanced theories of cross-linguistic influence and cognitive adaptation in SLA.

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1. Introduction

Recent research in SLA has increasingly highlighted the influence of a learner's L1 on their perception and use of an L2. This phenomenon, known as CLI, has received particular attention in studies examining how conceptual structures encoded in L1 influence learners' understanding and produce their L2. Researchers have demonstrated that these influences can shape both lexical choices and more profound conceptual frameworks, particularly when the two languages differ in their categorization of the world[1, 2]. Recent syntheses of cross-linguistic influence have emphasized how prior language knowledge and experience function as key explanatory variables in SLA development, urging both theoretical refinement and empirical expansion[3].

The primary goal of this study is to develop a structured, theory-building review of how L1 conceptual systems influence L2 acquisition. It synthesizes key empirical studies, highlights theoretical inconsistencies, and proposes a unifying framework for understanding conceptual transfer and restructuring. Furthermore, the study explores avenues for future empirical validation.

1.1. Gap in the Literature

While the impacts of linguistic factors—such as proficiency, frequency of exposure, and structural similarities between L1 and L2— are well-documented, relatively little attention has been paid to the role of the learner as an active agent in the acquisition process. Specifically, there is limited research on how learners might selectively focus on or avoid certain linguistic features based on their subjective perceptions of difficulty, relevance, or learnability. This raises important questions about the completeness of current models of conceptual transfer, which often treat learners as passive recipients of L2 input. This theory-building review synthesizes current empirical findings to introduce a novel perspective on conceptual transfer in SLA.

1.2. Purpose of the Study

This study reviews recent empirical studies investigating conceptual transfer across typologically diverse language pairs. The aim is to assess whether linguistic variables alone sufficiently explain SLA patterns or whether individual learner preferences (i.e., acquisitional preferences) play a critical role. The review examines how learners may form internal hierarchies of importance, choosing to invest effort in acquiring some structures while neglecting others, even when those neglected structures are frequently emphasized in instruction.

1.3. Overview

This study is structured to build a cohesive argument regarding how L1 conceptual frameworks influence L2 learning, while also considering the active role of the learner in shaping this process. The first section differentiates between the language-thought hypothesis and the conceptual transfer hypothesis, establishing their theoretical foundations and clarifying their relevance to SLA. The second section reviews empirical evidence from studies investigating both lexicalized and grammaticalized concepts, illustrating how conceptual mismatches can create challenges for L2 learners. The third section examines key variables—including proficiency, input frequency, and exposure—which have been proposed as moderators of transfer effects, assessing their strengths and limitations. Finally, the paper introduces the concept of acquisitional preferences, exploring how learner-driven selectivity can explain persistent gaps in conceptual restructuring, despite otherwise favorable conditions for learning.

To guide the reader through this theoretical development, the review is organized into four interrelated stages. First, it situates conceptual transfer within broader theories of linguistic relativity, clarifying the connection between language and thought. Second, it critically examines empirical findings across a range of conceptual domains. Third, it proposes the construct of acquisitional preferences as a potential explanation for why particular L2 conceptual distinctions remain resistant to change. Finally, it integrates these strands into a unified theoretical framework that can inform future empirical investigations.

This structure ensures a logical progression from foun-

dational theories through empirical insights to theoretical synthesis, highlighting the interplay between language-specific cognition, conceptual transfer, and the learner's agency. In doing so, the study aims to provide a nuanced perspective on conceptual restructuring in SLA that can serve as a foundation for future research.

2. Literature Review

2.1. The Conceptual Transfer and Language-Thought Effects

The most fundamental tenet in cognitive linguistics is that humans share common perceptual and conceptual capacities, enabling them to perceive and experience the outer world, and think and use language[4, 5]. Nevertheless, despite the idea that all humans share the same conceptual capacities, different languages impose constraints on the conceptualization of the surrounding world, so that different conceptual systems are influenced by the native language[6–8]. Therefore, cognitive researchers agree that language has the potential to shape or influence thought, leading to the idea that speakers across different languages can reflect different conceptual systems[4].

Accordingly, these different conceptual systems, as imposed by the patterns and structures of conceptualization in a native language, are likely to affect SLA at the conceptual level[1, 9–11]. Malt and Wolff, for example, emphasize that cross-linguistic differences across different languages "could play a subtle but significant role in what the speakers of different languages learn" (p. 4)[11].

Moreover, Malt and Wolff adopt a milder position, arguing in favor of the weaker version of language-thought effects[11]. They admit the language-thought interface, henceforth, realizing the potential of cross-linguistic differences in language acquisition. They state that "every language reflects a certain perspective on the world through its inventory of words and encoding strategies. Because of these cross-linguistic differences, a message sent through one language will likely differ to some degree in meaning from the 'same' message sent through another language… These differences could play a subtle but significant role in what the speakers of different languages learn" (p. 4)[11]. Such a view of the influence of language on thought has important implications for language learning and SLA, as noted by Whorf, "because

we are more inclined to think in our language to examine the exotic [target] language" (p. 138)[12]. In other words, the relationship between linguistic relativity and the conceptual transfer hypothesis can be portrayed as follows: since the languages we speak can affect non-linguistic cognition[13], it is expected that this L1-based habitual thinking can affect the way we (i.e., learners) approach the L2[9, 10, 14].

Despite the close relationship between language-thought effects and the conceptual transfer hypothesis, they are separate from each other[1]. The linguistic relativity hypothesis is crucially concerned with the hypothetical effects of language on thought. In contrast, the conceptual transfer hypothesis is concerned with the impact of thought (as imposed by a particular language) on additional language. Jarvis proposes that "We can, of course, extrapolate from the Linguistic Relativity Hypothesis the prediction that, if Language A affects a person's cognition, then that cognition may, in turn, affect the person's use of Language B" (p. 56)[9]. Scholars indicate that if language-based concepts might have the potential to act as "an attention-directing mechanism to specific perceptual attributes of reality" (p. 83)[15], then it becomes very important to understand how this habitual thinking affects bilingual learners whose languages carve up reality from different perspectives[15–17].

Although Whorf entertains the notion that the L1 can play a role in affecting the acquisition of the L2 at a conceptual level[12], this hypothesis is "not self-contained within the Linguistic Relativity Hypothesis" (p. 56)[9], which means that the conceptual transfer hypothesis is concerned with the hypothetical effects of thought (i.e., L1-based thought/cognition) on the additional language. Moreover, it also predicts that L1-based concepts and patterns of cognition, as well as the partitioning of the world, can affect how L2 learners use the language[15, 18–20].

2.2. Contemporary Research on Conceptual Transfer Hypothesis

Contemporary research on the conceptual transfer hypothesis has investigated both lexicalized and grammaticalized concepts across multiple language pairs. Research in cognitive linguistics broadly supports the idea that while human beings share common perceptual and conceptual capacities, languages encode the world in distinct ways. This forms the basis for conceptual transfer in SLA, where L1

conceptualization patterns influence how learners process the target language[1, 5, 6].

Various studies offer compelling evidence for language-specific influences on thought[7, 8]. These works are methodologically robust in demonstrating differences in categorization and perception; however, they are often conducted with monolingual speakers or under short-term experimental conditions, which limits their ecological validity when extended to long-term language acquisition.

A more direct application of SLA, examining how L1 conceptual systems shape L2 development, has been offered by some researchers[9–11]. While theoretically valuable, these studies often remain speculative and fail to track learner progress over time, which limits their explanatory power regarding the dynamics of conceptual change.

Contradictions emerge in the literature between studies advocating for strong language-determined cognition and those reporting more nuanced or domain-specific effects. This variability highlights the need for a framework that accounts for selective restructuring, explaining why some L2 conceptual features are acquired while others are persistently resisted.

Methodologically, many studies rely on picture descriptions, reaction times, or sentence-matching tasks. While these techniques offer measurable outputs, they often fail to capture learners' internal reasoning or value judgments about target forms. This gap is critical because it highlights the need for frameworks that explain how and why learners decide which L2 features to acquire.

A cross-comparison of these studies reveals that conceptual transfer effects are more consistently observed in domains like aspect and color, where L1☐L2 differences are deeply embedded. In contrast, domains such as motion or spatial expression exhibit more flexible patterns. This contrast suggests that the rigidity of conceptual systems may vary across domains, inviting further refinement in how we model transfer effects. In other words, although empirical research supports the presence of L1-based conceptual influence, a gap remains when it comes to explaining how learners actively filter and prioritize conceptual distinctions. This theoretical gap is the starting point for the proposal of acquisitional preferences as a mediating factor in SLA conceptual restructuring.

2.3. Lexicalized Concepts

Conceptual effects in lexicalized concepts can occur when the source and target languages represent different patterns of categorization in objects, such as the lexical category of the cup in English and Russian. The referents of the English lexical category "cup" include the traditional china cup as a prototypical object, and paper and plastic cups as peripheral objects. To illustrate, the two objects included in the same category in the English cup are not the same; yet, they are given the same name in the English language. Therefore, the conceptual range of the English cup includes the traditional china cup, as well as paper and plastic cups.

Nevertheless, the conceptual knowledge associated with the Russian cup is distinct and stimulates a different range of conceptual referents, which differs from that of the English cup. In other words, although the English cup and the Russian Chashka are translation equivalents, each one of them evokes a different conceptual range of objects. The Russian Chashka includes only traditional china cups and excludes paper and plastic cups from its category[2]. Therefore, because the conceptual range of the associated referents can represent variations, translation equivalents can only demonstrate partial translation equivalents where some meanings are expected to be lost in the process of translation.

Other forms of conceptual differences between translation equivalents across languages include the degree of distinctions that a language can make in a specific domain. For example, the French language makes more distinctions in the domain of container objects than the Dutch language does. The Dutch lexical category of Fles (i.e., bottle in English) includes twenty-five container objects, and these twenty-five objects are given two different names in the French language, Bouteille and Flacon. In other words, for the domain of container objects, the lexical category of Fles includes twenty-five objects as its conceptual range, with these objects divided almost equally between Bouteille and Flacon in the French language[21]. The implications of this study suggest that although translation equivalents across languages can exist, the conceptual knowledge associated with these equivalents does not typically convey the same information from the source to the target language.

2.4. Grammaticalized Concepts

Contemporary research on the conceptual transfer hypothesis (CTH) has received considerable attention recently, particularly in areas such as aspectual systems, space, and event construals across a wide variety of languages. The aspectual system of German-Dutch learners' data, which was later compared with data from monolingual Germans and Monolingual Dutch people, has been investigated by researchers[22]. The aspectual differences that are obligatorily encoded in German and optionally encoded in Dutch were not fully represented by the learners of the German-Dutch data, which is neither German-compliant nor Dutch-compliant. The data were interpreted in favor of an incomplete acquisition of the target aspectual system and traces of conceptual transfer effects.

Extending the research on German-Dutch bilinguals and other bilinguals, Van Bergen and Flecken investigated the effects of L1-specific concepts on the predictive language processing of bilinguals from diverse language backgrounds[23]. Dutch monolinguals and German-Dutch bilinguals, whose languages encode placement event descriptions as to whether they are positioned in a standing or a reclining manner, were recruited in the experiment. French-Dutch and English-Dutch bilinguals whose languages do not encode these distinctions were also recruited for comparison. Using the gaze allocation paradigm, all participants were required to answer comprehension questions while listening to Dutch descriptions of placement events. The data demonstrated that the Dutch monolinguals and German-Dutch bilinguals anticipated the types of objects according to the type of verbs they encountered. On the other hand, the French-Dutch and English-Dutch bilinguals did not demonstrate such predictive powers, despite their advanced understanding of Dutch placement verbs. The results were interpreted in terms of how previous knowledge of semantic distinctions can boost prediction in the target language.

In the same line of investigation of the aspectual system of different language varieties of the same language, Gerwien and von Stutterheim examined the effects of the aspectual system of Arabic-German learners on event construals[24]. German and Tunisian Arabic (i.e., TA) differ in their aspectual systems, where the former is a non-aspectual language, while the latter is a highly aspectual language. Monolingual German speakers and Arabic-German bilinguals of high pro-

ficiency in German are tested on verbal stimuli that show progressive events with endpoints and without endpoints. Arabic-German learners and German speakers diverged in their descriptions of temporality, which accorded with their lexicalization patterns, substantiating conceptual effects for Arabic-English bilinguals. The data were explained in terms of the spatial and temporal dimensions that each language schemata activates during the description phase. Similar to Gerwien and von Stutterheim's study, von Stutterheim et al. investigated the conceptual frames of L1 on event construals. Employing two groups of highly advanced French-English bilinguals and French-German bilinguals, as well as monolingual groups of the respective three languages, researchers found that despite the high frequency in the target languages, the bilingual speakers were unable to demonstrate descriptions that were native-like performance[25]. They interpreted the results in terms of the language-specific effects of the learners' L1, which motivated their attention allocations and verbal choices. The results demonstrate that L1-based concepts in the domain of spatial cognition precede the importance of the frequency of encounters with the respective items.

In the domain of event construals, however, Alghamdi et al. investigated the effects of Arabic lexicalization patterns on motion descriptions among intermediate and advanced Arabic-English learners and found that differences in the levels of acquisition of the same language might affect target language acquisition[26]. Besides the Arabic-English bilingual group, another two groups of participants were recruited as comparison groups: a monolingual Arabic group and a monolingual English group. The data revealed that although the Arabic language lexicalizes manner in verbs, monolingual Arabic speakers and the Arabic-English bilingual group used path verbs to describe manner actions. The data were interpreted in terms of conceptual transfer effects and the need for explicit teaching to highlight the subtle differences that may not otherwise be salient through implicit learning. Furthermore, a notable finding of this study is that the conceptual effects occurred from the spoken variety of Arabic, which uses path verbs where manner verbs were required, rather than from the standard variety, which could have resulted in positive conceptual effects.

These findings suggest that traditional linguistic variables alone cannot fully explain conceptual restructuring.

To better understand this process, we now examine cognitive and learner-driven factors that may influence how L2 learners internalize new conceptual distinctions.

2.5. Conceptual Restructuring

Having reviewed how conceptual transfer manifests empirically, we now turn to the question of whether these conceptual patterns are fixed or modifiable, a process known as conceptual restructuring. Another line of research explores conceptual restructuring within the framework of language-based concepts and the conceptual transfer hypothesis. After establishing language-based concepts and conceptual effects in the learning process across various domains and languages, researchers began to investigate the nature of language effects on cognition, specifically whether they are dynamic and subject to change, and what variables of interest might modulate such presumed change. In the domain of event construals among monolinguals, language-specific effects of causatives on non-linguistic cognition have been investigated[27]. To examine these effects, two language groups of Swedish and Spanish speakers were recruited whose languages differed in event construals for path and manner encodings. A new similarity task was devised in three separate experiments, which gradually weighted the use of language.

In Experiments 1 and 2, which allowed for minimal use of language, Swedish speakers were more likely than Spanish speakers to base their similarity judgments on the manner. However, when the use of language was blocked through a verbal distractor, the crosslinguistic effects of the Swedish speakers disappeared. The results suggest that the effects of language on cognition are dynamic and mediated by access to language. When investigating motion events among bilinguals, researchers were interested in testing whether path or manner priming would affect Swedish-Spanish learners' descriptions of L2 events and their similarity judgments[27].

Priming effects were found to influence Swedish-Spanish learners in a similarity judgment task. The results were interpreted in terms of language effects on cognition even though the linguistic stimuli were presented in an impromptu manner, and their presentations were transient and short-term in nature. These results support the claim that language and thought effects are flexible, dynamic, and liable to change. Similar to the findings in the previous study, the researchers confirmed the dynamic effect of language-specific concepts on cognition, and the change in such effects was modulated by priming effects, which are transient in nature.

In a study of the aspectual system, the conceptual restructuring of English-German learners was examined[18]. English and German diverge significantly in their temporal and aspectual systems. Whereas the English language requires its speakers to pay attention to the progressiveness of the actions (i.e., progressiveness), the German language requires its speakers to pay more attention to the endpoints of the actions (i.e., endpoints). The researchers were interested in whether the high proficiency of English-German bilinguals could have restructured their conceptual frames of progressiveness towards endpoints. English-German bilinguals and two groups of monolinguals, one in English and the other in German, were required to complete a matching task involving a scene with a low and high degree of endpoint saliency. The results indicated that the high proficiency of the English-German bilinguals had enabled them to restructure their conceptual frames according to the target language, where they based their similarity judgments on endpoint saliency. The results suggest that the L1 conceptual structure is flexible, dynamic, and liable to change when modulated by the proper variable.

In lexicalized concepts, on the other hand, the Russian color distinction between *sinii* [dark blue] and *goluboi* [light blue] was investigated among a group of monolinguals and bilinguals in different learning situations[28]. Five groups of participants were recruited for comparison: monolingual English speakers, monolingual Russian speakers, Russian-English bilinguals, English-Russian bilinguals, and Ukrainian-Russian-English trilinguals.

The results indicated that monolingual Russians referred to these two colors more distinctly in communication than all the other groups, while the pattern of bilinguals in color distinction was similar to that of the monolingual English group. That is, only the monolingual Russian group made the color distinction; none of the bilinguals did. The interpretation of these findings was that the classroom environment does not provide the necessary situations for Foreign Language (FL) learners to grasp the required distinctions, and that a long period of real conversational communication would help highlight the subtle differences. Furthermore, these findings suggest that the dominance of L2 might contribute to L1 language attrition. Neurocognitive findings

further support this dynamic view. In other words, recent advances in neuroimaging have revealed that SLA induces structural and functional changes in the brain, reflecting its neuroplastic potential. Korenar and Pliatsikas synthesize findings that show L2 experience reshapes brain networks associated with cognitive control, language processing, and memory[29]. These adaptations vary depending on factors such as age of acquisition, proficiency, and immersion, highlighting the dynamic and experience-dependent nature of neuroplasticity in bilinguals.

2.6. Evaluating the Empirical Evidence on Conceptual Transfer

This section organizes empirical studies by conceptual domain, namely, aspectual systems, motion events, and color categorization, to highlight patterns and inconsistencies in how L1 influences interact with L2 conceptual learning. Numerous studies have provided evidence supporting the conceptual transfer hypothesis; however, the strength and generalizability of their findings vary significantly depending on the design, population, and task type. Jarvis provides updated insights into the conceptual transfer, discussing its historical roots, core assumptions, and current research scope[30]. He emphasizes the role of language-specific concepts and patterns of conceptualization in crosslinguistic influence, further elaborating on how these factors contribute to the variability observed in empirical studies.

2.7. Strong Contributions

Some of the most convincing evidence comes from Ameel et al. and Pavlenko and Malt[2, 21], whose work on lexical categorization differences between languages (e.g., English vs. Russian or Dutch vs. French) uses robust experimental paradigms, such as naming and categorization tasks. Their use of bilinguals alongside monolingual controls provides a clear window into how conceptual boundaries are maintained or reshaped in L2. These studies are particularly strong due to their cross-linguistic breadth and replicable task designs, which allow for comparisons across semantic domains and language pairs.

Similarly, compelling evidence for conceptual transfer in grammaticalized domains, particularly in aspect and placement events, was provided[22, 23]. Their use of gaze-

tracking methods and online prediction tasks adds a real-time dimension to the data, offering insight into processing, not just production. This increases the ecological validity of their conclusions, as the studies reflect more naturalistic language use. Baroncini and Torregrossa demonstrate that cross-linguistic influence in bilingual children is not solely determined by language proficiency, but critically depends on the activation of specific syntactic structures[31]. Using a syntactic priming paradigm, they show that exposure to particular word orders (e.g., VSO) can trigger non-target structures in the other language, even when that language is not explicitly activated. These findings highlight the role of structural activation in modulating CLI and suggest that syntactic priming serves as a mechanism through which structural overlap across languages manifests in bilingual speech.

2.8. Methodological and Generalizability Limitations

By contrast, some studies present intriguing findings, but are limited by scope or methodology. For instance, Alghamdi et al. argue for conceptual transfer effects from the spoken (colloquial) variety of Arabic, rather than the standard form[26]. While this is a novel and culturally important insight, the study's reliance on written elicitation tasks, and the limited range of motion events tested, may reduce the robustness of its conclusions. Moreover, participant variation in dialect exposure and dominance was not fully controlled, which raises concerns about internal validity.

Likewise, Gerwien and von Stutterheim produce strong results in testing event construal in Arabic-German bilinguals. Yet, the generalizability of their findings to other language pairs (e.g., English-Japanese or Chinese-Spanish) remains unclear due to the typological uniqueness of the languages studied[24]. Their focus on high-proficiency speakers also leaves open the question of how conceptual restructuring might evolve at earlier stages of acquisition.

2.9. Inconsistencies and Unresolved Questions

A recurring limitation across many studies is the assumption that proficiency or frequency of exposure alone should drive restructuring. Yet, as demonstrated by Pavlenko et al., even highly proficient bilinguals may not adopt L2-specific conceptual distinctions, such as color categories,

unless those distinctions are functionally reinforced through communicative experience [28]. This challenges models that assume exposure automatically leads to restructuring and suggests the need for a more nuanced account, one that includes learner agency or selective attention, as explored later in this paper.

3. Theoretical Framework

3.1. Operationalizing Acquisitional Preferences: A Theoretical Proposal

Although the concept of acquisitional preferences is emergent, this section aims to outline its theoretical foundation and suggest pathways for operationalization in future research. Acquisitional preferences refer to the learner's active (or semi-conscious) prioritization of certain L2 features over others based on internal factors, such as perceived relevance, conceptual similarity to L1, or communicative necessity.

This idea expands on, but is distinct from, constructs like "noticing" [32–37], as it suggests a hierarchical internal filtering process, not merely what is noticed, but what is pursued or retained over time. It also intersects with ideas of cognitive economy, learner motivation, and task relevance.

To operationalize this construct, future studies could investigate:

1. Whether learners rate some conceptual distinctions (e.g., boundedness, aspect) as "less worth learning"
2. How task type or input frequency influences what learners internalize
3. Whether prioritization patterns differ by proficiency, age, or L1 background

Methodologically, acquisitional preferences could be examined through stimulated recall protocols (e.g., why learners chose to omit or emphasize certain forms), longitudinal journals that track which forms are actively practiced, or semi-structured interviews that probe the perceived usefulness of grammatical or lexical features. Articulating this construct more explicitly not only enriches theoretical models of transfer and restructuring, but also invites empirical validation through learner-centered, qualitative inquiry.

The theoretical framework developed in this study invites empirical investigation. Future studies could adopt experimental or observational designs to investigate how learners prioritize conceptual distinctions across domains and whether this prioritization is influenced by proficiency, instructional context, or cognitive load. Suggested methods include keeping an introspective journal, longitudinal tracking, and concept-mapping tasks. In other words, while input-related variables such as proficiency and frequency play a role, conceptual change also appears to be mediated by the learner's internal filtering of what is conceptually relevant or feasible to acquire. This observation forms the basis of the theory of *acquisitional preferences*, which is developed in the next section.

3.2. Synthesizing Theoretical Strands: A Unified Framework

This section integrates the theoretical and empirical strands reviewed so far, proposing a unified model that captures how language-specific cognition, transfer effects, and learner agency co-construct the path of L2 acquisition.

Building on the preceding discussion, this section brings together insights from linguistic relativity, conceptual transfer, and cognitive flexibility to propose a unified model that centers learner agency as a mediating factor.

This review has addressed three major strands in the study of cross-linguistic influence: (1) the language-thought hypothesis, (2) the conceptual transfer hypothesis, and (3) conceptual restructuring. While each stream contributes distinct insights, they converge on a shared focus: how language shapes cognition and, in turn, influences second language acquisition. This convergence reflects the broader theoretical evolution of transfer research in SLA, as Meng's documents trace its development from behaviorist and cognitive paradigms toward interactionist and sociocultural frameworks [38].

1. The language-thought hypothesis posits that the structure of a speaker's L1 can shape non-linguistic cognition in subtle yet systematic ways [6, 12].
2. The conceptual transfer hypothesis refines this view by focusing on how L1-shaped cognition influences the use and acquisition of an L2 [1].
3. Conceptual restructuring builds on these foundations to ask whether such L1-based cognitive patterns can change over time in L2 learners and under what conditions such

change occurs [18].

These strands are best understood not as competing theories, but as layers of influence operating at different stages of language learning. The researchers propose a three-tiered model:

1. Foundational Layer: Language-specific cognition (L1 conceptual structures)
2. Transfer Layer: Effects of those structures on L2 perception and production (Conceptual Transfer)
3. Adaptation Layer: Conditions under which restructuring may or may not occur

Each layer is influenced by different variables: the foundational layer is shaped by native linguistic input; the transfer layer reflects how that input influences L2 development; and the adaptation layer is governed by both linguistic (e.g., proficiency, frequency) and non-linguistic (e.g., motivation, acquisitional preferences) factors.

3.3. Synthesizing Theoretical Strands

To integrate the key strands discussed—namely, linguistic relativity, conceptual transfer, and conceptual restructuring—the researchers propose a unified framework that captures their interrelationships. This framework also introduces the role of learner agency in shaping second language acquisition outcomes, such as through acquisitional preferences. **Figure 1** illustrates how these concepts interact across three levels: language-specific cognition, transfer effects, and potential restructuring.
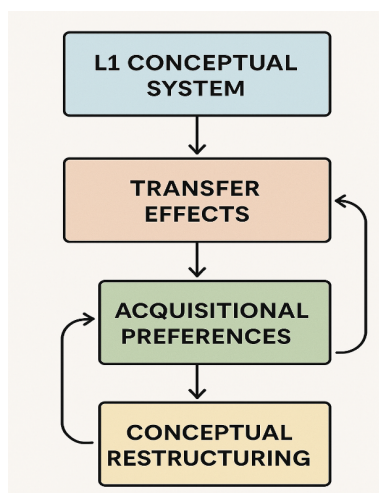

Figure 1. A conceptual framework linking linguistic relativity, conceptual transfer, restructuring, and learner-driven preferences in second language acquisition.

Figure 1 visually consolidates the theoretical strands discussed in this paper—language-specific cognition, transfer effects, and conceptual restructuring—while integrating learner preferences as a mediating layer. This model helps clarify how various cognitive and linguistic mechanisms interact, supporting the development of future testable hypotheses. This model can serve as a heuristic tool for researchers seeking to design studies that test the relationships between L1 conceptual systems, transfer effects, and learner agency in restructuring. Each layer can be operationalized in experimental designs that examine how and when conceptual change occurs.

3.4. Scope and Methodological Positioning

This section integrates previously reviewed concepts and findings into a unified framework to explain variability in L2 conceptual restructuring. This study is designed as a theory-building review. While it does not follow a formal systematic review protocol or involve original empirical data, it synthesizes cross-linguistic research to generate a novel framework for understanding learner-driven selectivity in conceptual restructuring. Future research may apply structured methodologies—such as meta-analyses, corpus-based reviews, or qualitative case studies—to validate and extend the model proposed here.

As a theoretical synthesis, this paper draws on a broad range of empirical studies in SLA and psycholinguistics to identify recurring patterns and theoretical gaps. While it does not employ a systematic review design (e.g., PRISMA), its goal is to consolidate existing insights and propose a testable conceptual model. This approach aligns with the function of theory-building reviews, which aim to guide future inquiry rather than statistically generalize findings. We invite future researchers to apply structured methodologies (e.g., systematic reviews or meta-analyses) to further validate and refine the conceptual framework proposed here.

4. Discussion

Empirical findings on the conceptual transfer hypothesis across multiple domains of investigation have generated supporting evidence in favor of L1 conceptual effects on target languages. In other words, L1-based concepts, whether grammaticalized, such as aspect, or lexicalized like color

terms, have the potential to affect SLA of the target items, and such effects are documented in typologically distant languages, which provide more corroborating evidence for the findings. Moreover, the wide variety of domains explored in the field of conceptual transfer hypothesis—including container object, aspect, space, metaphor, color, and resultative—supports the thesis that language-based concepts have indispensable effects on non-linguistic cognition in different operations and mechanisms, as just explained.

Although research on the effects of language on non-linguistic cognition has been established in the CTH literature, the nature of such effects and the variables that mediate them are still debatable. For example, some researchers argue that the language effects on cognition are dynamic and flexible in nature and can be changeable if mediated by proficiency, linguistic exposure, and frequency of occurrence[18, 27] (Montero-Melis, Jaeger, & Bylund, 2016).

On the other hand, other researchers argue that the effects of language on cognition are very difficult to restructure, for both bilinguals and monolinguals, and that SLA would still demonstrate traces of conceptual transfer effects, even if the most relevant variables are accounted for[22–26, 28] (Pavlenko et al., 2016). For example, it has been found that bilinguals in FL situations may not be able to distinguish the necessary color distinctions as compared to monolinguals, and L2 dominance could contribute to L1 attrition[28].

It is noteworthy that the bilinguals in the study were Russian-English balanced bilinguals who were born in the USA and spoke Russian fluently in their community, while the English-Russian bilinguals were advanced learners of Russian who had even spent time in the target language country. Despite their balanced bilingual abilities and high proficiency, their distinction patterns were not similar to those of the monolingual Russian group. The implication is that the internalization of language-specific concepts is developed and cemented through the accumulation of language use in a communicative fashion over the years in the target language environment. Therefore, conceptual restructuring for concepts like color distinctions is not a function of proficiency or even balanced bilingualism. Instead, for conceptual restructuring to take place, similar learning situations to those in the monolingual learning environment should be considered and pondered.

Nonetheless, it is important to acknowledge that several studies have shown proficiency and exposure can support restructuring under specific conditions. For instance, high proficiency in L2 German among English speakers led to a shift in temporal event construals toward German-like endpoint sensitivity[18]. Similarly, Montero-Melis and Bylund demonstrated that language-specific event construals could be influenced by recent linguistic exposure in experimental settings, suggesting that the effects of language on cognition are not only dynamic, but also responsive to usage contexts[27]. These findings imply that, while proficiency and exposure may not guarantee conceptual restructuring, they can act as facilitating conditions, particularly when reinforced through meaningful input and communicative interaction.

Similar findings were obtained in the domain of the aspectual system. Von Stutterheim et al., for example, found that factors such as high target language proficiency and frequency of encounters are not as important as L1-based conceptual frames in spatial cognition[22, 25]. This means that the L1-based concepts of space and L1-conceptualization patterns are the most important variables in language acquisition, despite the fact that language acquisition is mediated by proficiency, frequency of encounters, and linguistic exposure. The implication of this study, as in the previous one, is that language acquisition is a complex process even for the most frequently occurring items. Consequently, traditional variables and learning processes that are usually thought to affect acquisition should be reconsidered, refined, and reevaluated.

Moreover, Alghamdi et al. investigated the language effects of Arabic-English bilinguals on the event construals of motion events, and their descriptions were compared to those of monolingual Arabic and monolingual English speakers[26]. The researchers found an interesting pattern of conceptual transfer effects where learners carried over their spoken Arabic variety of conceptualization into their target language. The learners used path particles to describe manner events in their construals, even though manner particles exist in the Standard Arabic variety, which converges with previous studies[24, 32]. Although some of the participants in this study had an intermediate level of proficiency, all had been living in the UK for a while, and therefore, their linguistic exposure and frequency of encounters were expected to be high. Nonetheless, these variables did not have an observable influence on the conceptual restructuring of their

conceptual frames of the path in the target language [25].

It is also recommended that the role of explicit instruction be to direct students' attention to the subtleties of the target language, rather than ascribing L2 language performance to variables that may not be directly related. The different effects of language varieties in Arabic have been investigated, and it has been found that the Tunisian variety of Arabic differs significantly from Standard one in the distribution of lexical devices used to reconstruct motion events [32]. While the study of von Stutterheim, et al. found divergence in the aspectual systems of the two varieties of Arabic and the types of lexical devices distributed to the construals of motion events [32], Alghamdi et al. found that the L1 transfer effects on motion construals occur from the spoken variety of Arabic [26]. The type of conceptual effects was interesting because Arabic-English learners preferred to make use of the grammatical system of their spoken variety (using path verbs instead of manner verbs), which resulted in inaccurate descriptions of motion events [26]. Rather than making use of the Standard variety, which is full of manner verbs that can best describe the respective motion events, Arabic-English learners made use of path verbs.

Unlike other studies on conceptual transfer effects that assume conceptual effects occur based on language differences in lexicalized and grammaticalized systems, current research highlights the actual use of the language and the patterns of habitual thought in a real-time fashion [24, 26, 32]. After all, monolingual speakers are not always representative of the grammatical and lexical systems of their languages [32]. Research on Arabic diglossia suggests that the Standard variety of Arabic and the spoken variety differ significantly, due to differences in psycholinguistic processes. Researchers maintain that the mental processing of standard Arabic among monolingual Arabs is similar to that of a foreign language [32, 34]. Therefore, the patterns of habitual cognition—as motivated by the activated variety of the language inside the mental lexicons of its speakers, through active and actual use of the language—appear to be more important than the presumed L1-based concepts that are usually hypothesized based on structural differences between standard varieties [35].

To summarize, research on the conceptual transfer hypothesis generated illuminating findings on the domains and operations of language-specific concepts in second language acquisition. Nonetheless, the research findings were not conclusive regarding the variables that could mediate these effects for conceptual restructuring to take place. For example, traditional variables such as proficiency, frequency of encounter, and linguistic exposure, while generally effective predictors of language acquisition, appear insufficient on their own to explain learners' difficulty in distinguishing the subtleties of target language-specific concepts, such as color, space, aspect, and motion. Furthermore, research on language varieties suggested that the conceptual effects occur from the conversational variety, rather than from the standard one.

Taken together, these findings suggest that learners' involvement in the learning process may include other variables that have not been seriously considered before. Learners' involvement in the learning process may include cognizant decisions on the distribution of their attention and effort to target language items, determining what to learn and what to discard from the learning process, based on the conceptual correspondences between the L1 and L2. Learners might create their own learning priorities, identifying what is important to learn and what is not, and therefore, what to ignore. For example, learners might not perceive the use of general terms instead of specific ones or the use of non-aspectual cases where an aspectual case is required as a significant issue, as long as no serious communication breakdown occurs (from their own perspective, of course). That is, learners might intentionally ignore learning specific target items which they might not deem critical or rational (depending on their L1 concepts) as long as no communication breakdown is expected. For example, the endpoint perspective in the German language might not be perceived as making much difference for Arabic-English learners, and this may likely be due to an incomplete understanding of the full tense system in the German language. Therefore, learners might have developed an implicit selective attention and learning mechanism as to what to learn and what to drop from the learning process.

This selective mechanism in the learning process may also have motivated the Arabic-English learners to use the spoken variety, rather than the standard one. In the former study, the learners' decision to transfer features from the spoken variety into the target language lacked clarity [26]. However, it might be proposed that due to the diglossic sit-

uation in the Arabic language, the standard variety is not perfectly mastered by Arabic speakers because it is not activated daily[32]. Henceforth, one can still claim that learners' decisions in the learning process are actively involved and can play, supposedly, an important role in the acquisition process. In the cases of Arabic-German learners and Arabic-English learners, the learners may have made conscious decisions to limit their learning motivation to specific target items, according to this hypothetical priority list of L1 and L2 conceptual correspondences.

After all, conceptual restructuring cannot occur unless students perceive a sound rationalization of the target item distinction, especially if the distinction makes no sense or holds no importance for them from the L1 conceptual perspective. Although this review suggests that learners may prioritize certain target items, the underlying motivations for these choices remain unclear. These decisions may not be fully conscious or rational, but shaped by a combination of influences, such as the perceived communicative value, emotional salience, cognitive economy, and instructional relevance. Nor can they fully grasp and integrate the newly acquired item into their performance unless they frame the target item distinction within the broader context of the target language's conceptual system.

Although this review is theoretical, it offers empirically grounded insights and directions. Specifically, it encourages future research to investigate learner-driven acquisitional preferences using methods such as stimulated recall interviews, introspective journals, and longitudinal case studies. These methodologies help reveal the conscious or unconscious prioritization processes learners engage in when acquiring conceptually mismatched L2 features.

These decisions may not be fully conscious or rational, but rather shaped by a combination of influences, such as perceived communicative value, emotional salience, cognitive economy, or instructional focus. These findings resonate with broader trends in language education that prioritize learner agency and authentic engagement[36]. In this sense, learners may be operating under implicit learning strategies or motivational schemas that direct attention selectively. Clarifying whether such preferences are strategic, effort-based, or emotionally driven would enhance our understanding of conceptual transfer, and its variability across learners and contexts. Future research could explore this

dimension qualitatively by tracking learners' reasoning and decision-making during acquisition tasks.

5. Conclusion

This study argues that L2 learners are not merely passive recipients of input, but active agents who filter, prioritize, and sometimes resist conceptual restructuring. This theory-building review consolidates cross-linguistic evidence and introduces the construct of *acquisitional preferences* as a way of explaining these learner-driven outcomes. The findings on cross-linguistic influence, particularly in terms of lexicalized and grammaticalized concepts, support the thesis that habitual patterns of thought in the L1 can exert a significant influence on cognition, and these language effects are very difficult to overcome or restructure. Traces of L1-based concepts persist in the perception and production of language learners despite their high proficiency, frequent encounters, and extended periods of linguistic exposure. Such results suggest that language learning may involve other cognitive processes that could have contributed to the incomplete acquisition of target language items. If, for example, highly proficient L2 learners who are living in a target language environment and are exposed to multiple examples of the aspectual system daily, fail to integrate 'aspect' into their conceptual system, one has to wonder what other variables are involved.

It is possible that learners have made conscious decisions about the learning process and formed their list of learning priorities based on the conceptual correspondences between the L1 and L2 target items to be acquired. For example, learners might have been involved in creating their own L2 accuracy system, which lies somewhere between their L1-based concepts and L2-based concepts, as long as no serious communication breakdown occurs. These acquisitional preferences may be shaped consciously by conceptual similarities or differences between the source and target items. To the best of the researchers' knowledge, these hypotheses about learners' decision-making are not explicitly addressed in the current literature. However, past research on avoidance strategies[39, 40] has discussed what strategies language learners employ to avoid certain structures in the target language.

Future research should explore these learner decisions

using qualitative methodologies, such as stimulated recall interviews, introspective journals, or longitudinal case studies. These approaches could provide valuable insights into how learners, consciously or unconsciously, prioritize certain conceptual features while disregarding others, even when they are exposed to or instructed on them. This perspective also helps reconcile contradictions in the literature, such as instances where learners with high exposure and proficiency still fail to acquire specific conceptual distinctions, suggesting that input alone is not always sufficient for restructuring. This approach aligns with current findings in educational research, which emphasize the role of technology in enabling personalized learning experiences[41].

Although this paper does not employ a formal systematic review protocol or empirical methodology, it synthesizes cross-linguistic findings across diverse linguistic domains to generate a cohesive conceptual framework. Future work could strengthen methodological rigor by incorporating systematic review procedures, including transparent selection criteria, coding protocols, and meta-analytic synthesis. These findings highlight the importance of flexible teaching materials and learner agency in shaping conceptual restructuring in SLA[42].

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Conceptualization, S.E. and H.A.; literature review, S.E., H.A., and A.A.A.; methodology, S.E.; formal analysis, S.E. and H.A.; resources, H.A. and R.A.; data curation, R.A.; writing—original draft preparation, S.E. and H.A.; writing—review and editing, S.E. and A.A.A.; visualization, H.A. and R.A.; project administration, A.A.A. All authors have read and agreed to the published version of the manuscript.

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The authors declare no conflict of interest.

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