

Investigating Cognitive Metonymy in the L2 Mental Lexicon: A Pathway to English Proficiency

Le Thi Ha Ny

Abstract

In light of Vietnam's strategic shift in repositioning English from EFL to ESL, the demand for learners to achieve conceptual fluency has become significant. This study centers on the mastery of figurative language, particularly cognitive metonymy, which serves as a fundamental mental mechanism for organizing and accessing the human conceptual system. This study investigates the cognitive mapping processes of metonymy within the L2 mental lexicon and its role in enhancing linguistic proficiency. Using the framework of Cognitive Linguistics, specifically Idealized Cognitive Models, the research explores how L2 learners navigate intra-domain mappings such as producer for product, container for content, and part for whole. Unlike metaphor, which involves cross-domain mapping, metonymy operates via mental access within a single conceptual matrix, providing a more direct yet cognitively dense route to lexical meaning. Through a mixed-methods approach comprising a metonymy identification task and a corpus-based analysis of learner discourse, the study examines the extent to which Vietnamese learners utilize metonymic pathways compared to literal processing. Preliminary data indicate that learners with higher metonymic competence demonstrate a more interconnected and flexible mental lexicon, enabling faster retrieval of expressions and more natural communication. In contrast, those stuck in literal translation frequently struggle to reach ESL-level proficiency. The paper argues for pedagogical implications, suggesting a shift away from the vocabulary list approach toward explicit instruction in cognitive mapping, effectively bridging the gap between basic grammar and true conceptual fluency.

1. Introduction

Vietnam's shift toward an ESL framework requires L2 learners to achieve conceptual fluency (Bui, 2019; Evans & Green, 2006). However, cognitive metonymy (Lakoff, 1987) remains under-researched compared to metaphor in SLA, causing learners to rely on fragmented literal translations (Sun & Lin, 2025). To bridge this gap, this study explores how Vietnamese English learners process intra-domain metonymic mappings (such as PRODUCER FOR PRODUCT and PART FOR WHOLE) and how these operations shape L2 mental lexicon organization, lexical flexibility, and idiomatic comprehension.

Guided by these research objectives, this study aims to address the following Research Questions (RQs):

- How does awareness of cognitive metonymy influence the structural organization and interconnectivity of the L2 mental lexicon among Vietnamese learners of English?
- In what ways does an understanding of metonymic mappings (e.g., PART FOR WHOLE, PRODUCER FOR PRODUCT) support learners' idiomatic comprehension and lexical flexibility?
- What are the adverse effects of relying on literal translation strategies on the organization of the L2 mental lexicon compared to a conceptually grounded approach?

2. Literature Review and Theoretical Framework

2.1. Nature of Cognitive Metonymy: Cognitive metonymy is an intra-domain mapping grounded in contiguity. Within an Idealized Cognitive Model (ICM), a vehicle entity provides mental access to a target entity, serving as a cognitive shortcut (Lakoff & Johnson, 1980; Radden & Kövecses, 1999).

2.2. L2 Mental Lexicon & Conceptual Fluency: L2 learners often develop fragmented lexicons due to literal translation. Raising metonymic awareness reveals semantic motivation, systematically restructuring the mental lexicon to enhance conceptual fluency (Boers, 2001; Nunberg, 1995).

2.3. Common Intra-domain Mappings: Four core mappings foster lexical flexibility: Part for Whole; Producer for Product; Place for Event/Activity; Location for Experience.

Figure 1 shows the intra-domain mapping architecture of the Tourism Destination Idealized Cognitive Model (ICM).

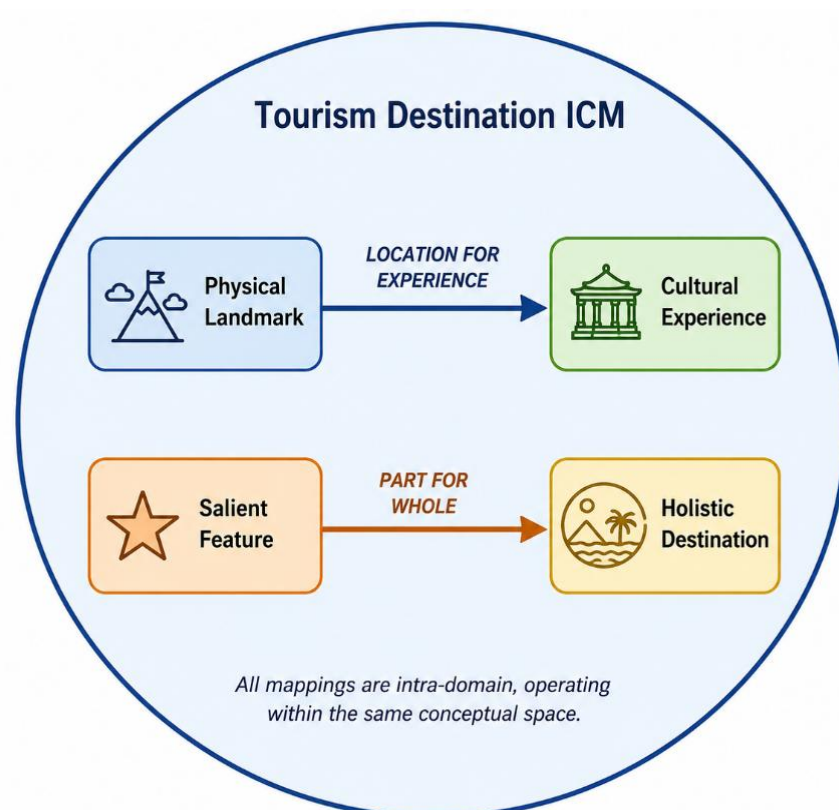


Figure 1. The intra-domain mapping architecture within the Tourism Destination - ICM.

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3. Methodology

3.1. Research Design: Mixed-methods combining corpus analysis and psycholinguistic experiments.

3.2. Data Selection: The Tourism Promotional Corpus (TPC) (~50,000 tokens, 2020-2025 articles)

3.3. Data Collection and Experimental Instruments:

- Metonymies identified via MIP and validated by two raters;
- Lexical decision and cued interpretation tasks administered to 60 Vietnamese L2 learners (B2-C1).

3.4. Data Analysis Procedure:

- Quantitative (SPSS): Evaluates correlation between mapping types, accuracy, and retrieval speed;
- Qualitative: Examines learner strategies (Conceptual Mapping vs. Literal Translation).

4. Results and Discussion

4.1. The Prevalence and Diversity of Metonymy in Tourism Discourse (Corpus Analysis)

The analysis of the 50,000-token Tourism Promotional Corpus (TPC, 2020-2025) reveals a high density of metonymic expressions as Table 1.

Table 1. Frequency of Conceptual Mappings in the TPC (2020-2025)

Conceptual Mapping	Frequency (per 1,000 words)	Typical Linguistic Examples
PART FOR WHOLE	12.5	"Touch the soul of the city", "Explore the heart of Vietnam"
PLACE FOR EVENT/ACTIVITY	9.8	"Ibiza never sleeps", "Vietnam awaits your discovery"
PRODUCER FOR PRODUCT	8.2	"Experience local artisans' craftsmanship"
LOCATION FOR EXPERIENCE	7.6	"Taste the flavor of the region", "Discover the magic of Paris"

4.2. Psycholinguistic Reality in L2 Processing and the Mental Lexicon

An independent-samples t-test revealed a statistically significant difference in lexical retrieval accuracy between the high-awareness group ($M = 84.60$, $SD = 6.85$) and the low-awareness group ($M = 63.00$, $SD = 7.78$), $t(58) = 11.42$, $p < .001$, $d = 2.95$ as shown Table 2

Table 2. Performance on Experimental Lexical Tasks ($N = 60$)

Group	N	Mean Accuracy (%)	SD	Mean RT (ms)	SD	t-value	p-value	Cohen's d	95% CI
High Metonymic Awareness	30	84.60	6.85	1,350	185	11.42	< .001	2.95	[17.8, 25.4]
Low Metonymic Awareness	30	63.00	7.78	2,120	240	-13.88	< .001	3.58	[-910, -630]

The psycholinguistic divergence in processing efficiency and retrieval latency between the two experimental cohorts is visually conceptualized in Figure 2.

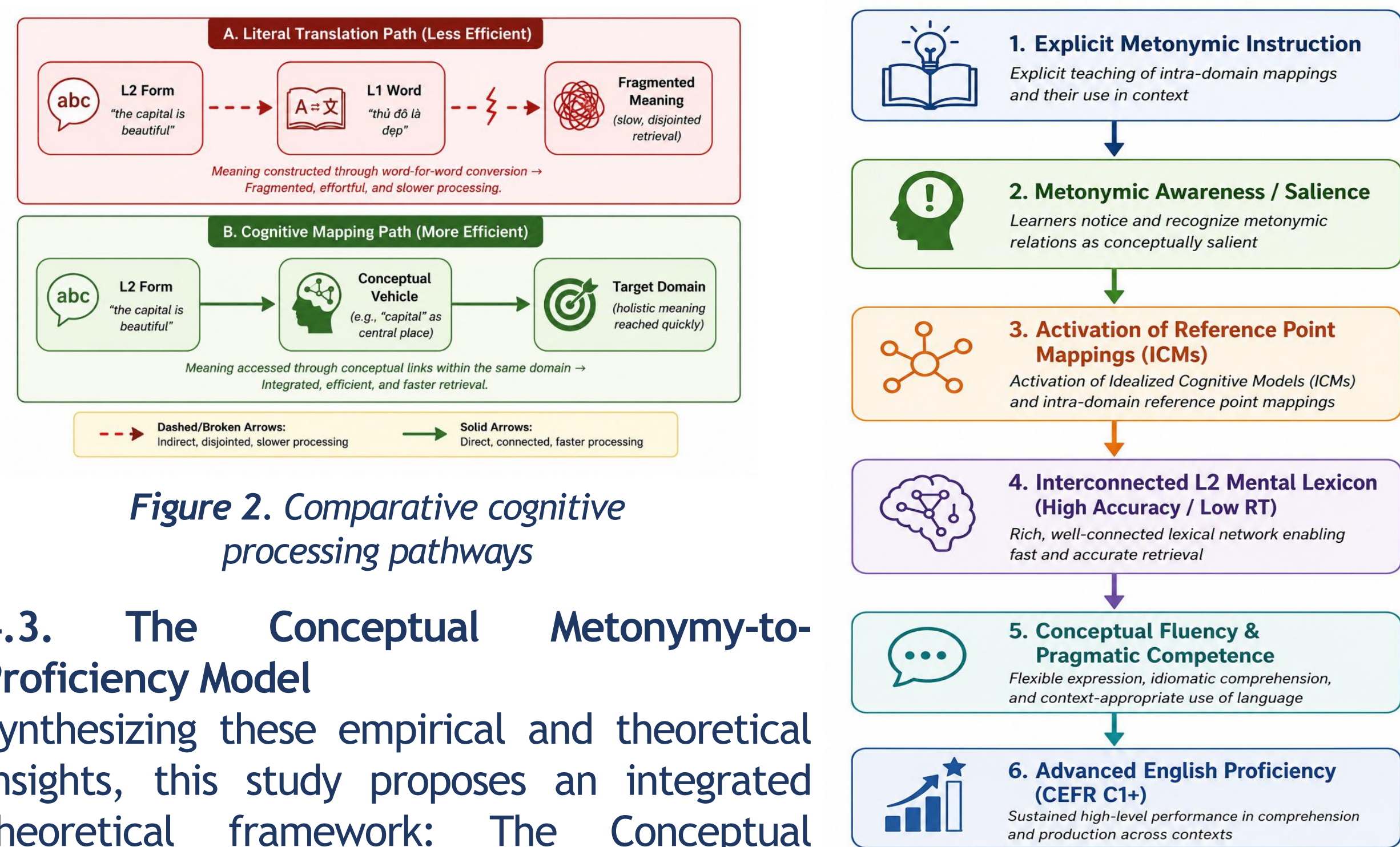


Figure 2. Comparative cognitive processing pathways

4.3. The Conceptual Metonymy-to-Proficiency Model

Synthesizing these empirical and theoretical insights, this study proposes an integrated theoretical framework: The Conceptual Metonymy-to-Proficiency Model as illustrated in Figure 3

Figure 3. The Conceptual Metonymy-to-Proficiency Model

5. Conclusion

5.1. Empirical Findings:

Analyzing the TPC (2020-2025), this study demonstrates that cognitive metonymy is essential for L2 mental lexicon retrieval among Vietnamese learners, with high-awareness participants achieving an 84.6% accuracy rate and faster processing speed.

5.2. Theoretical & Pedagogical Contributions:

It bridges a key SLA gap regarding conceptual fluency and advocates shifting vocabulary instruction from rote L1 translation to corpus-driven cognitive mapping.

5.3. Limitations & Future Directions:

While constrained to written texts and B2-C1 learners, future research should expand into multimodal tourism corpora and encompass broader proficiency levels.