# Contrastive Semantics in Cross-Linguistic Analysis: A Comprehensive Review and Synthesis of Five Crucial  Models

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## ABSTRACT

This study addresses the pressing need for a unified analytical framework in cross-linguistic semantics by integrating five pivotal models: Natural Semantic Metalanguage (NSM), Conceptual Metaphor Theory (CMT), Frame Semantics (FS), Semantic Field Theory (SFT), and Cognitive Grammar (CG) to examine meaning construction in English and Vietnamese. Although substantial theoretical progress has been made in semantic studies, existing research often remains fragmented, with limited integration across models and minimal application to typologically distinct languages. Employing a mixed-methods design, this study analyzed ten short stories using Wordsmith 8.0 and NVivo 14, capturing both quantitative patterns and qualitative nuances in linguistic structure. The findings reveal not only shared semantic primitives and embodied metaphors but also significant cultural variations in conceptual frameworks, including collectivist and individualist tendencies reflected in frame activation and metaphor usage. These insights contribute to the development of an integrated semantic framework that supports more nuanced cross-linguistic comparisons and highlights the dynamic interplay among cognition, language, and culture. Beyond its theoretical significance, the proposed framework holds practical value for language education, translation practices, and computational linguistics by enabling culturally informed semantic analysis. Ultimately, this research reconceptualizes contrastive semantics as an interdisciplinary and culturally grounded field, offering essential tools for enhancing semantic.

## 1.  Introduction

Language is far more than a system of signs and symbols. It is the vessel of human thought, the mirror of culture, and the medium through which we conceptualize and communicate our experiences. Understanding how meaning is constructed and represented across languages is central to modern linguistics, particularly in a globalized world where multilingual interaction is increasingly common. As scholars and educators grapple with the challenges of teaching, translating, and preserving language diversity, contrastive semantics emerges as an essential field that interrogates the interplay between linguistic form, cognitive structure, and cultural knowledge.

Rooted in the mid-twentieth century, contrastive semantics has evolved from early comparative frameworks into a robust area of inquiry that examines semantic variation and universality across languages. Pioneered by Lado (1957), the discipline initially focused on systematic comparison for pedagogical purposes. Over time, the field expanded to encompass theoretical contributions such as Lakoff and Johnson's (1980) Conceptual Metaphor Theory (CMT), Fillmore's (1982) Frame Semantics (FS), Langacker's (1987) Cognitive Grammar (CG), Wierzbicka's (1996) Natural Semantic Metalanguage (NSM), and Nerlich and Clarke's (1999) Semantic Field Theory (SFT). These paradigms have deeply enriched our understanding of meaning by exploring the relationship between language, thought, and cultural cognition. More recent scholars such as Geeraerts (2010), Evans (2015), Levison and Waters (2017), and Janda (2008) have advanced these foundations, integrating insights from cognitive science, discourse analysis, and linguistic typology to reframe how semantic structures are interpreted across cultures.

Despite this impressive body of work, limitations persist in the application and integration of these theories. NSM, for instance, provides a compelling account of universal semantic primitives but struggles to address culture-specific metaphorical structures. While CMT effectively captures metaphorical cognition, it lacks systematic mechanisms for conducting rigorous cross-linguistic comparisons.

Similarly, FS offers a dynamic view of meaning through frames and contextual knowledge, yet its effectiveness diminishes when dealing with abstract or non-visual concepts across languages. SFT excels in mapping lexical relationships but falls short in handling semantic constructions or metaphorical expressions. CG, on the other hand, illuminates the link between grammar and meaning but has limited utility in practical domains such as translation and language instruction. These challenges reveal critical gaps in how we understand and operationalize contrastive semantics, particularly in contexts that demand an integrated, culturally responsive approach.

A growing number of studies have attempted to fill these gaps by expanding theoretical models or applying them to diverse linguistic contexts. Majid et al. (2018) extended SFT to olfactory lexicons, demonstrating the need for broader cross-cultural application. Ziem (2014) introduced multimodal frames in FS, while Torrent et al. (2018) advanced cross-lingual information processing. In the domain of CMT, Littlemore (2019) and Winter and Matlock (2017) explored embodied metaphor in digital discourse and sensory experience, yet much remains to be done in understanding how metaphor evolves in multilingual, digitized settings. Likewise, Bromhead (2020) and Ye (2017) introduced innovations to NSM by analyzing cultural discourse and emotion concepts. Although these studies mark important progress, they remain largely disconnected. What is missing is a unified framework that bridges these complementary theories to offer a cohesive model for understanding cross-linguistic meaning-making, particularly between typologically distant languages like English and Vietnamese.

This study aims to address that gap by proposing an integrated analytical framework that synthesizes the strengths of NSM, CMT, FS, SFT, and CG. By examining English and Vietnamese short stories through this composite lens, the research introduces a novel methodology that allows for deep semantic analysis while accommodating cultural and linguistic diversity. The study's contribution lies not only in its theoretical integration but also in its empirical validation through dual-language data and its ability to uncover subtle patterns of meaning that individual models often overlook. This approach advances contrastive semantics as a field that is both theoretically grounded and practically applicable.

The significance of this research lies in its potential to inform and transform multiple domains. From a linguistic perspective, it demonstrates how meaning is shaped not only by universal cognitive mechanisms but also by cultural specificities that govern semantic construction. It also redefines methodological approaches in contrastive analysis by offering a triangulated model that blends qualitative insight with quantitative precision. The study pursues four key aims: to examine how the five semantic models can be cohesively integrated, to explore methodological innovations arising from this synthesis, to assess the framework's utility in language education and translation, and to identify its implications for computational linguistics and artificial intelligence.

The structure of the paper reflects these objectives. Section 2 presents the theoretical framework that underpins each of the five models. Section 3 outlines the methodology, detailing data collection and analysis through both Wordsmith 8.0 and NVivo 14. Section 4 presents the results, categorized by semantic model, while Section 5 discusses the findings in relation to existing literature. Finally, Section 6 concludes with reflections on the study's implications and offers suggestions for future research. This logical progression ensures that each research question is addressed systematically and that the interdisciplinary contribution of the study is clearly articulated.

This study makes a significant contribution to the field of contrastive semantics by integrating five major theoretical frameworks, namely NSM, CMT, FS, SFT, and CG, into a unified and empirically grounded model that offers a more comprehensive understanding of cross-linguistic meaning. It addresses the longstanding issue of fragmented semantic theory application by introducing methodological innovation, theoretical depth, and practical value for both semantic analysis and applied linguistics. In the context of English language teaching, this integrated framework is especially valuable. It provides educators with deeper insight into how semantic structures differ and intersect across languages, enabling them to better anticipate learners' difficulties and create culturally responsive teaching materials. The model also supports more effective instruction in vocabulary development, metaphor interpretation, and translation accuracy. Furthermore, it promotes intercultural awareness and cognitive empathy, both of which are essential for fostering meaningful and inclusive language learning experiences in increasingly diverse and globalized classrooms.

## 2. Literature Review

### 2.1 Theoretical framework

Understanding of language meaning and cognition evolved substantially throughout the twentieth century. Trier's (1931) SFT pioneered systematic understanding of how cultures influence word grouping and meaning assignment in semantic fields. Fillmore's (1982) FS built upon this work and advanced it by observing how linguistic meaning is captured by the underlying conceptual structures and how these structures are organized through frames, complex interrelated mental representations that enable understanding.

Langacker's (1987) CG significantly changed how researchers understood the relationship between grammar and conceptual meaning. This approach demonstrated that grammar functions as a cognitive tool integrating form and meaning. Cognitive linguistics was advanced by Lakoff & Johnson's (1980) CMT, which revealed that metaphorical thinking is the essence of human cognition and language expression, regardless of culture.

In the mid-1990s, Wierzbicka's NSM identified approximately 65 universal semantic primitives across languages. This pioneering research undertook the task of delimiting the scope of pure linguistic relativity while enabling an analysis of culture-bound and culture-free meaning aspects. These five theoretical directions make a strong base for the study of language meaning in relation to cognitive universals and cultural particulars.

## 2.2 Research gaps and evolution

The advancement of these theories has demonstrated a number of notable research gaps. SFT's preliminary area of study, while revolutionary, were limited to European languages which is still a major issue in almost all studies conducted today. Majid et al. (2018) worked to fill the gap with the extension of SFT to olfactory lexicons in different societies, but developed frameworks for cross-cultural extension are still lacking.

Likewise, Fillmore's FS was able to provide languages for understanding the structures of one's cognition, but its use in non-Indo-European language and digital communication was still unexplored until recent years. Ziem (2014) has begun working to address these gaps by adding a multimodal frame while Torrent et al. (2018) devised frame-based models for cross-lingual information processing and Solvoll & Hoiby (2023) supplemented the framework by providing an analysis for frame structures across languages and cultures.

As to cognitive perspectives, Winter & Matlock (2017) advanced CMT by incorporating sensorimotor experience as a factor that aids in abstract thought construction throughout varied cultures. Still, there is ambiguity regarding the impact of digital communication and globalization on metaphor embodiment. These questions were posed by Littlemore (2019) who utilized multimodal discourse analysis, but there is a lack of in-depth research on talking in a digital context.

## 2.3 Current research directions

There is a growing emphasis on identifying and merging parts from different theoretical frameworks and applying them to modern communication phenomena. For example, Ye (2017) modified the NSM theory by introducing cross-linguistic emotion concept analysis, while Bromhead (2020)

demonstrated that NSM is applicable to analyzing discourses of various cultures. These changes are indicative of the need to explain culture through universal semantic primitives.

There is growing interest in applying these theories to communication. SFT model was employed to explain the semantic fields of social media discourse. Musolff (2019) applied FS to analyze metaphorical frames in political discourse. Dancygier (2021) further advanced CG by studying construal patterns and how they reflect cultural cognitive orientations in different languages. The recent works demonstrated subtle cross-linguistic differences in motion event construal while depicting the effectiveness of CG. Kövecses (2020) corroborated the importance of CMT in understanding cultures and social interactions in terms of metaphors. This evidence suggests more integrated, multimodal approaches to the analysis of language phenomena with a special focus on contemporary communication and the technology used for it. Combining the understanding of these theoretical approaches and new developments shows the progress made in understanding cross-linguistic meaning construction and the significant work left to do in the field. Although there are already advanced instruments for the analysis of linguistic meaning from the simplest semantic primitives to sophisticated metaphorical structures, the evolution of forms of cross-cultural communication demands a greater investigation.

## 3. Method

### 3.1. Research design

This study utilizes qualitative and quantitative methods to investigate semantic structures and properties in Vietnamese and English through five contrastive semantic models: NSM, CMT, FS, SFT, and CG. This research integrates statistical analysis of linguistic patterns with in-depth analysis of contextual meanings, which constitutes a comprehensive understanding of cross-linguistic semantic relationships. Through the utilization of quantitative methods, such as frequency analysis and statistical testing, alongside qualitative techniques including thematic analysis and contextual interpretation, the study identifies measurable linguistic patterns and semantic subtleties that might be missed through single-method approaches.

This integration allows for the triangulation of findings, where quantitative results can be validated and enriched through qualitative insights, and vice versa. This approach may enhance the overall reliability of the cross-linguistic analysis. The methodology emphasizes systematic comparison between Vietnamese and English semantic structures, which ensures that the evaluation of the effectiveness of each semantic model is grounded in empirical data and contextual understanding.

### 3.2. Data collection

The data were done by choosing 10 short stories of which five stories are in Vietnamese and five stories are in English. The sampling technique that was applied was selection based on intended criteria, which ensures that the two language corpora are comparable. The collective sample consisted of around 37,400 words, in which the Vietnamese stories had 13.800 words, while the English stories had 23.600 words. Each Vietnamese story had a word count between 2,500 and 3,000 while the word count in English stories ranged from 2,100 to 8,000. The selection criteria included modern authorship, and similar word counts, writing styles and themes. Every story was checked against the source materials for accuracy. All permissions for research were obtained, and files were archived during the collection procedures.

### 3.3. Data analysis

The data analysis combines quantitative and qualitative approaches by using two software tools. For quantitative analysis, WordSmith 8.0 software is utilized to conduct a systematic linguistic examination, beginning with word frequency analysis using thresholds to identify significant patterns across two languages. While collocation analysis examines word relationships, concordance analysis provides contextual patterns of word usage. These quantitative analyses constitute a foundation for understanding linguistic patterns and variations between the two languages through empirical evidence for cross-linguistic comparison.

The qualitative analysis is performed using NVivo 14 software, which involves systematic thematic coding by using predefined and emergent codes to allow the identification of semantic patterns and relationships across languages. Cross-language comparison is facilitated through standardized matrices, while concept mapping visualizes semantic relationships between different linguistic elements. The integration of quantitative and qualitative findings occurs through systematic comparison and cross-validation, with regular assessment ensuring alignment between analytical methods and research questions.

## 4. Result

### 4.1 Patterns in natural semantic metalanguage analysis

To include excerpts or quotations from literature, this section compares patterns of natural semantic metalanguage in Vietnamese and English texts for universal and culture-specific meanings. The study carried out on semantic primes and cultural concepts in short stories from both languages found comparable patterns but usage revealed cultural perspectives of differing worldviews. While both languages possess shared underlying semantic primes, Vietnamese texts capture the essence of social stratification and collective experiences, whereas English texts capture individual expression and autonomy.

*4.1.1 Distribution and frequency of semantic primes*

The results of semantic prime usage across the Vietnamese and English texts, as presented in Table 4.1, show comparable numbers of primes per story between the two languages. Vietnamese stories contain an average of 31.6 semantic primes (range: 28-35) and 21 cultural concepts (range: 18-25) in each story. Similarly, English stories feature an average of 31.8 semantic primes (range: 27-36) and 22.2 cultural concepts (range: 18-26) per story. These findings demonstrate a consistent level of semantic complexity across the analyzed texts from both languages.

**Table 4.1** Semantic primes and cultural concepts in Vietnamese and English

| Aspect | Vietnamese story (VNST) | | | | | English story (EST) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | VNST1 | VNST2 | VNST3 | VNST4 | VNST5 | EST1 | EST2 | EST3 | EST4 | EST5 |
| **Semantic primes** | 35 | 32 | 29 | 34 | 28 | 36 | 30 | 27 | 35 | 31 |
| **Cultural concepts** | 22 | 18 | 21 | 25 | 19 | 23 | 20 | 18 | 26 | 24 |
| **Total** | 57 | 50 | 50 | 59 | 47 | 59 | 50 | 45 | 61 | 55 |

The results show that Vietnamese and English texts have quite a similar number of semantic primes. In addition, the result presents common semantic primes that are frequently utilized in Vietnamese and English stories including *I-tôi, you-bạn, someone- ai đó, people-mọi người, body-cơ thể, think-nghĩ, know-biết, want-muốn, feel-cảm thấy*, and *say-nói*. These common primes reveal universal human concepts and experiences transcending linguistic and cultural boundaries. Moreover, the presence of these common primes highlights the existence of a universal conceptual foundation underlying human language and cognition.

However, the result also reveals distinct patterns of prime usage in Vietnamese and English, which reflects cultural differences in worldviews and social structures. While Vietnamese speakers tend to utilize collective primes, such as *chúng tôi* (we) and *tất cả* (all) and primes related to social relationships and hierarchy, like *người có địa vị* (superior) and *người dân thường* (subordinate), English speakers are prone to employ individual-focused primes, such as *I* and *want*, and fewer primes related to social hierarchy. These differences in prime usage patterns highlight the influence of cultural values and norms on the linguistic encoding of meaning. To put it simply, Vietnamese speakers emphasize collectivism and social structure while English speakers prioritize individualism.

### 4.1.2 Cross-linguistic semantic structures

Analysis reveals significant differences between Vietnamese and English texts in narrative structure, description, and dialogue. As shown in Table 4.2, these variations reflect distinct cultural and linguistic approaches to meaning-making in the two languages.

**Table 4.2** Cross-linguistic semantic structures in two languages

| Feature | Vietnamese stories | English stories |
|---|---|---|
| **Narrative Structure** | Average words per story: 2760 | Average words per story: 4720 |
| | Linear timeline: 4/5 stories | Non-linear: 3/5 stories |
| | External actions: 18 per story | Internal monologue: 25 per story |
| **Descriptive Elements** | Physical details: 24 per story | Psychological states: 28 per story |
| | Nature references: 15 per story | Social context: 22 per story |
| | Concrete imagery: 32 per story | Abstract concepts: 35 per story |
| **Dialogue Patterns** | Average exchanges: 8 per scene | Average exchanges: 15 per scene |
| | Indirect speech: 12 per story | Direct speech: 22 per story |
| | Social role references: 14 per story | Personal expressions: 26 per story |

As illustrated in Table 4.2, Vietnamese texts show a notably compact structure, averaging 2,760 words per story, with a strong preference for linear timelines (present in 4 out of 5 stories) and emphasis on external actions (18 instances per story). Therefore,

we can conclude that Vietnamese speakers tend to emphasize concrete physical descriptions, with 24 physical details and 15 nature references per story, which show a clear tendency toward tangible imagery (32 concrete images per story). The findings demonstrate a cultural preference for direct and observable phenomena in storytelling.

In contrast, English texts are notably more expansive, averaging 4,720 words per story. They favor non-linear narratives (in 3 of 5 stories) and make extensive use of internal monologue (25 instances per story), reflecting a strong emphasis on psychological states (28) and abstract concepts (35), which suggests a deeper engagement with internal experiences and conceptual exploration. Dialogue patterns also reveal cross-linguistic contrasts. Vietnamese stories feature fewer exchanges (8 per scene) but consistently include references to social roles (14) and indirect speech (12), highlighting a collective and hierarchical orientation. Meanwhile, English dialogues are more frequent (15 per scene), with greater use of direct speech (22) and personal expressions (26), reflecting a preference for individual expression and direct communication. These patterns underscore fundamental cultural and communicative differences between Vietnamese and English.

### 4.1.3 Understanding of concept patterns

Vietnamese and English speakers share similar conceptualizations of complex social constructs, demonstrating universal cognitive patterns. Table 4.3 presents similar semantic features in two distinct cultural frameworks, which emphasizes how complex concepts go beyond linguistic boundaries while maintaining the roots of meaningful structures.

**Table 4.3** Common features of complex concepts in English and Vietnamese

| English | Vietnamese | Common features |
|---|---|---|
| Face | Mặt mũi | Related to reputation and social standing |
| | | Can be lost or damaged |
| | | Associated with negative emotions when compromised |
| Respect for parents | Hiếu thảo | Involves positive actions towards parents |
| | | Socially valued behavior |
| | | Reflects intergenerational relationships |

To begin with, the concept of *mặt* (face) reveals that there is a universal semantic construct in Vietnamese and English cultures. To put it simply, this concept is associated with the reputation and social standing of an individual, which goes beyond linguistic boundaries. In reality, the concept of face in the two contexts is recognized that it can be lost or damaged. In other words, this concept highlights its fragile nature. Last but not least, this concept carries significant emotional weight, with negative emotions intensely triggered when social reputation is compromised.

Likewise, the concept of *hiếu thảo* (respect for parents) is another complex concept, which shares several aspects in two languages. It is clear to recognize that this notion involves children's positive attitudes towards parents and presents a cross-cultural

recognition of familial responsibilities. Furthermore, this concept is inherently socially valued to reflect the universal importance of intergenerational relationships. As a result, these actions go beyond mere emotional respect to embody a deeper cultural appreciation for parental contributions and familial bonds.

While complex concepts have fundamental similarities, significant cultural subtilities arise when they are examined in terms of the semantic variations between Vietnamese and English linguistic representations. Table 4.4 presents the significant differences in how English and Vietnamese speakers conceptualize social and relational constructs, and in how linguistic and cultural contexts shape meaning-making processes.

**Table 4.4** Differences in complex concepts between English and Vietnamese

| English | Vietnamese | Distinguishing features |
|---------|-----------|-------------------------|
| Face | Mặt mũi | **Vietnamese:**<br>-Stronger emphasis on visual aspects.<br>-More intense negative emotions when lost.<br>**English**:<br>-Less emphasis on visual elements.<br>-Less intense emotional associations |
| Respect for parents | Hiếu thảo | **Vietnamese**:<br>-Strong sense of moral obligation.<br>-Includes material care.<br>- High social approval.<br>**English**:<br>- Focus on emotional respect;<br>- Less emphasis on material care;<br>- Lower social pressure |

The concept of *mặt* (face) reveals cultural variations between Vietnamese and English linguistic aspects. First, Vietnamese speakers tend to emphasize visual aspects in a stronger manner, which suggests a more represented understanding of social reputation. The emotional intensity related to face loss can be significantly more profound in Vietnamese culture, which reveals a more visceral social experience in comparison with the relatively more abstract English conception.

In contrast, English speakers tend to place less emphasis on visual elements and emotional associations. Accordingly, the concept of face in English is considered to be more intellectualized, which focuses on reputation as an abstract social construct rather than a visually and emotionally charged experience. As a result, this difference

demonstrates broader cultural tendencies towards individualism versus collective social consciousness.

## 4.2 Conceptual metaphor analysis

This section focuses on the ways in which metaphorical thinking in Vietnamese and English texts reflect. The study goes over three main aspects: the distribution and frequency of recorded metaphors, metaphorical expressions that are embodied and specific cultures, and metaphorical patterns of cultures. Both languages have common cognitive processes, such as understanding abstract concepts through real life experiences, but vary greatly with regard to the use and the complexity of their metaphors. Vietnamese writings use nature-based metaphors rooted in specific collective contexts, but English metaphors tend to be more abstract, psychological, and individualistic.

### 4.2.1 Metaphor patterns

Metaphor pattern analysis shows significant differences between Vietnamese and English expressions. Table 4.5 provides a detailed breakdown of conceptual, physical, and sensory metaphors across ten short stories to demonstrate distinct patterns of metaphorical thinking in both languages.

**Table 4.5** Conceptual and experiential elements in Vietnamese and English

| Aspect | Vietnamese story (VNST) | | | | | English story (EST) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | VNST1 | VNST2 | VNST3 | VNST4 | VNST5 | EST1 | EST2 | EST3 | EST4 | EST5 |
| Conceptual metaphors | 5 | 4 | 6 | 0 | 2 | 7 | 5 | 8 | 6 | 4 |
| Physical experiences | 8 | 6 | 7 | 4 | 5 | 9 | 7 | 6 | 8 | 5 |
| Sensory experiences | 6 | 7 | 5 | 4 | 3 | 8 | 6 | 7 | 5 | 4 |

Vietnamese stories contained 0-6 metaphors (average 3-4), while English stories showed 4-8 metaphors (average 6). This disparity reveals that English texts tend to utilize more conceptual metaphors than Vietnamese texts.

Next, the second type of metaphor is physical experiences that show remarkable similarities between the two languages. The results reveal that both Vietnamese and English texts consistently featured 4-9 physical experience metaphors in each text, which indicates a universal tendency to conceptualize abstract experiences through physical sensations. The distribution proves that embodied cognition operates similarly in these linguistic contexts regardless of cultural differences.

Finally, sensory experience metaphors revealed interesting patterns, with Vietnamese stories ranging from 3 to 7 metaphors and English stories from 4 to 8. This variation demonstrates that English and Vietnamese speakers tend to use sensory metaphors extensively while the specific sensory domains and their metaphorical mappings differ. This research result focuses on how linguistic and cultural contexts shape metaphorical thinking, which reveals both universal cognitive mechanisms and culture-specific conceptual strategies.

### 4.2.2 Physical and sensory experience

Embodied metaphors function as essential cognitive tools that help individuals interpret and express abstract emotional experiences through physical and sensory terms. This study explores how metaphorical expressions related to temperature, physical force, and bodily movement are used in both Vietnamese and English to convey emotional states. As shown in Table 4.6, these metaphors demonstrate how concrete bodily sensations are mapped onto internal feelings, revealing shared cognitive patterns while also reflecting cultural differences in metaphor usage.

**Table 4.6** Common embodied metaphors in Vietnamese and English

| Embodied experience | Vietnamese example | English example |
|---|---|---|
| Temperature | Cảm giác lạnh buốt từ cơn sốt | The feel of icy water on the skin |
| Physical force | Tiếng hét vang như búa bổ vào tai | The sound of crashing waves |
| Bodily movement | Chân tay bủn rủn | His limbs weak |

The results reveal that there are three primary domains of common embodied metaphors, such as temperature sensations, physical force experiences, and bodily movement perceptions. Metaphors like *Cảm giác lạnh buốt từ cơn sốt* in Vietnamese and *The feel of icy water on the skin* in English demonstrate a universal cognitive strategy of mapping thermal experiences onto emotional states. Likewise, physical force metaphors such as *Tiếng hét vang như búa bổ vào tai* and *The sound of crashing waves* explain how sensory perceptions are systematically transformed into experiential understanding.

The findings illuminate the theoretical foundation of conceptual metaphor theory and confirm that embodied metaphors function as cognitive mechanisms shared across languages. By identifying both universal patterns and culturally specific nuances, the study addresses key questions concerning the interplay between language, cognition, and sensory experience. It further suggests that although metaphorical processes are fundamentally consistent across cultures, their actual expressions vary in subtle ways.

This insight deepens our understanding of how different linguistic communities interpret and convey abstract experiences through culturally informed metaphors. In addition, the results demonstrate that embodied metaphors are likened to windows into the unique cognitive aspects of Vietnamese and English linguistic communities. Moreover, the results explore how cultural contexts shape metaphorical thinking and semantic representation, as illustrated in Table 4.7

**Table 4.7** Distinctive embodied metaphors in Vietnamese and English

| Language | Distinctive embodied metaphor | Example |
|---|---|---|
| Vietnamese | Internal bodily sensation | Chân tay bủn rủn (Limbs becoming weak) |
| English | External physical force | The sound of crashing waves |

The results present remarkable differences in metaphorical conceptualization. Vietnamese speakers tend to use metaphors to predominantly underscore internal bodily sensations, as in *Chân tay bủn rủn* (limbs becoming weak), which indicates a culturally rooted tendency towards introspective metaphorical thinking. On the contrary, English speakers use metaphors to gravitate towards external physical force representations like *The sound of crashing waves*, which suggests a cultural preference for understanding experiences through dynamic and external phenomena.

These variations deeply evaluate the central hypotheses of the research, which deals with language, thought, and cultural cognition. These findings demonstrate the existence of underlying universal cognitive mechanisms by showing how metaphorical mapping varies across languages, thus providing evidence for a subtle understanding of cross-linguistic semantic processes. The results indicated that embodied metaphors are not just metaphorical embellishments, but multi-dimensional concepts that serve as powerful cognitive tools, reflecting complex patterns of culture and the way people perceive, understand meaning, and experience the world.

### 4.2.3 Cultural-specific metaphor patterns

Culturally specific metaphors indicate key cognitive and cultural differences between Vietnamese and English. The results are considered the answers to the research questions of the study about how linguistic communities conceptualize and express abstract experiences through metaphorical thinking.

**Table 4.8** Culturally-specific metaphors in Vietnamese and English texts

| Language | Metaphor | Example |
|---|---|---|
| Vietnamese | CONCEPTUAL METAPHOR | *Nạn đói đã tràn đến xóm này từ lúc nào* (VNST3) |
| | | When hunger crept into this village |
| | PERSONIFICATION METAPHOR | *Mặt trời ngấp nghé mặt lũy* (VNST4) |
| | | **The sun was peeking over the edge of the village wall.** |
| English | PARADOXICAL METAPHOR | The lamp lit at noon. (EST4) |
| | | **Thắp đèn ban ngày.** |
| | CONCEPTUAL METAPHOR | Love sacrifices everything, even one's greatest pride. (EST3) |
| | | **Tình yêu hy sinh mọi thứ, kể cả niềm tự hào lớn nhất.** |

The results reveal that there are significant differences in metaphorical patterns in two contexts. Vietnamese speakers tend to use metaphors to demonstrate distinctive characteristics. As exemplified in the conceptual metaphor *Nạn đói đã tràn đến xóm này từ lúc nào* (When hunger crept into this village), which conceptualizes social hardship as a fluid invasion. Another example is the personification metaphor *Mặt trời ngấp nghé mặt lũy* (The sun was peeking over the edge of the village wall), which attributes human characteristics to natural phenomena. In contrast, English speakers use metaphors to show different cognitive strategies. To illustrate this point, the paradoxical metaphor *The lamp lit at noon* is a case in point, which creates cognitive tension. Another example is concerned with the conceptual metaphor *Love sacrifices everything*, which personifies emotional experience as an active agent.

These findings challenge the initial hypotheses by demonstrating that metaphorical thinking, while universally rooted in human cognition, is profoundly shaped by cultural context. Furthermore, the results provide empirical evidence that linguistic structures mirror deeper cultural orientations, highlighting that metaphors are not mere rhetorical devices but serve as complex cognitive tools for encoding and conveying cultural knowledge.

### 4.3 Frame semantic analysis

Frame semantic analysis examines how Vietnamese and English activate cognitive frames through short stories to reveal how each language structures knowledge and integrates metaphor, highlighting cultural values and communicative strategies reflected in frame activation.

The results are associated with the semantic frames in Vietnamese and English texts that reveal intricate patterns of cognitive structuring in two contexts.

Table 9 provides an overview of frame distribution, which demonstrates remarkable consistency in overall frame structure while highlighting subtle cultural variations.

**Table 4.9** Semantic frames and frame elements in Vietnamese and English

| Aspect | Vietnamese story (VNST) | | | | | English story (EST) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | VNST1 | VNST2 | VNST3 | VNST4 | VNST5 | EST1 | EST2 | EST3 | EST4 | EST5 |
| Semantic frames | 3 | 3 | 2 | 4 | 2 | 3 | 2 | 4 | 3 | 3 |
| Frame elements | 8 | 7 | 5 | 10 | 6 | 9 | 6 | 8 | 7 | 5 |

As shown in Table 4.9, the results present near-identical averages for semantic frames in which Vietnamese texts have an average of 2.8 frames (standard deviation: 0.8), and English texts have an average of 3.0 frames (standard deviation: 0.7), with a consistent range of 2-4 frames per stories. Another aspect is about frame element that mirrors this pattern, with Vietnamese texts displaying 7.2 elements (range: 5-10) and English texts showing 7.0 elements (range: 6-9). These findings show a fundamental similarity in narrative structural complexity across both languages.

However, the results presents cultural differences in frame activation. Vietnamese speakers tend to primarily emphasize collective-oriented frames: filial piety (75%), collective harmony (70%), and social hierarchy (65%). These frames consistently highlight familial bonds, intergenerational relationships, and social interconnectedness. In contrast, English speakers tend to predominantly activate individualistic frames: self-realization (80%), individual freedom (80%), and personal achievement (80%), which reflects a cultural emphasis on personal autonomy and individual trajectory.

*4.3.2 Knowledge structure patterns*

The analysis of knowledge structures in Vietnamese and English shows distinct patterns in frame complexity and organization. Table 10 shows Vietnamese stories maintain an average of 3 frames per story, which primarily focuses on various themes, including *chiến đấu* (combat), *sự sống còn* (survival), *gia đình* (family), and *áp bức* (oppression) while English stories have average 3.2 frames, which emphasize several themes such as mental health, survival, love, nature, and maritime.

**Table 4.10** Knowledge Structure Patterns in Vietnamese and English

| Aspect | Vietnamese Stories | English Stories |
|---|---|---|
| **Frame complexity** | - 3 frames per story average | - 3.2 frames per story average |
| | - Combat, survival, family, oppression | - Mental health, survival, love, nature, maritime |
| **Hierarchical structure** | -Individual → Family → Society | -Individual →Society → Universal themes |
| **Frame elements** | - 6-10 elements per frame | - 5-9 elements per frame |
| | - Concrete, socially-oriented | - Abstract, psychologically-oriented |
| | - Emphasis on collective experience | - Focus on individual experience |
| **Common elements** | - Main character | - Protagonist |
| | - Physical environment | - Physical setting |
| | - Emotional state | - Internal conflict |
| | - Family relationships | - Personal transformation |
| **Semantic integration** | - Tight integration | - Greater separation |
| | - Strong family/community focus | - Emphasis on psychological depth |

The difference in cultural frame organization reveals distinct features. For instance, Vietnamese speakers normally begin with individuals, then families, and then expand to society. This clearly shows the ethnic group's traditional collectivist norms.

On the other hand, English speakers seem to have a wider scope and start with an individual, then move on to nature or society before culminating with a universal theme that is characteristic of a more individualistic culture.

In terms of frame elements, the results reveal the variations of frame elements between the languages. Vietnamese texts contain 6-10 concrete, socially oriented elements per frame, which emphasize collective experience. English texts consist of 5-9 elements per frame, which tend toward abstract, psychological content focused on individual experience. Regarding common elements, Vietnamese stories prioritize family relationships and emotional states while English texts emphasize internal conflict and personal transformation.

Finally, the results reveal that semantic integration patterns underscore cultural distinctions. Vietnamese stories tend to demonstrate tight integration between social and personal frames with a family or community focus. In contrast, English stories show greater separation between individual and social frames, which emphasize psychological depth. As a result, these findings are answers to the research questions about cross-linguistic semantic patterns and their relationship to cultural cognitive frameworks.

*4.3.3 Frame-metaphor integration results*

To begin with, the results in terms of frame-metaphor integration in Vietnamese and English texts, which reveal significant differences in how these languages construct meaning. Vietnamese texts demonstrated an average of 2.8 frames per text while English texts showed a higher average of 4.2 frames per text as presented in Table 11. This difference in frame frequency demonstrated that English speakers may employ more complex semantic structures in their communication than Vietnamese speakers do. When it comes to the metaphor types, which demonstrated a remarkable difference. Vietnamese speakers tend to predominantly use nature-focused and concrete physical metaphors, whereas English speakers are cline to support abstract psychological metaphors and complex emotional states.

**Table 4.11** Frame-metaphor integration in two languages

| Aspect | Vietnamese Texts | English Texts |
|---|---|---|
| **Average Frames** | 2.8 per text | 4.2 per text |
| **Metaphor Type** | - Nature/environment focused<br>- Concrete physical experiences | - Abstract/psychological<br>- Complex emotional states |
| **Integration Style** | - Direct physical-metaphorical mapping<br>- Family-centric frames | - Multi-layered metaphors<br>- Psychological-physical blending |
| **Frame Complexity** | - Lower complexity, physical experiences | - Higher complexity, |
| **Cultural Elements** | - Strong family and nature connections | - Individual and psychological emphasis |

The manner in which frames and metaphors intertwine displays different tendencies across languages. Vietnamese speakers articulated direct physical metaphors with the family-based directions, definable experience frames. Conversely, English speakers articulated sophisticated multi-layered metaphors with a psychological-physical blend, which resulted in complex semantics. These differences in integration style suggest wider cultural frameworks concerning the understanding and expression of abstract concepts in metaphors.

Frame-metaphor integration was greatly influenced by cultural factors. Vietnamese speakers exhibited particular adherence to the themes of family and nature, which were further contained in the metaphorical structures of the text. In contrast, English speakers made use of individual experiences and psychological states, which demonstrates a more individualistic culture. The frame complexity also showed drastic differences. For example, Vietnamese texts had simpler structures of primary physical experiences, whereas English texts had a higher complexity structure with metaphorical constructions. These results imply the presence of an interrelation between cultural background and the manner in which languages integrate frames and metaphors to arrive at meaning.

## 5. Discussion

This study provides an important advancement in the field of contrastive semantics by integrating five prominent semantic models: Natural Semantic Metalanguage (NSM), Conceptual Metaphor Theory (CMT), Frame Semantics (FS), Semantic Field Theory (SFT), and Cognitive Grammar (CG). Drawing on the foundational insights of Geeraerts (2010) and Evans (2015), the findings emphasize that meaning is not solely a linguistic construct but also a culturally embedded cognitive process. Through comparative analysis of Vietnamese and English

narratives, this research illustrates that while languages share certain universal cognitive patterns, their semantic realizations are shaped by deeply rooted cultural values and social ideologies.

A key contribution of this study lies in the identification of semantic primes that, while universal in form, encode culturally specific subtexts. As proposed by Wierzbicka (1996) and further developed by Goddard (2000, 2002) and Goddard and Wierzbicka (2014), semantic primes represent foundational elements of meaning across languages. However, this study study reveals significant cultural distinctions between Vietnamese and English texts, showing how linguistic structures mirror societal values. Vietnamese narratives emphasize social hierarchy, collective roles, and communal responsibilities, reflecting a collectivist orientation (Chung & Long, 2024), whereas English texts prioritize individuality, autonomy, and self-expression, consistent with individualistic norms (Hong et al., 2000). These differences challenge assumptions of semantic uniformity and highlight the need for culturally sensitive linguistic frameworks. Language not only represents but also constructs cultural realities, as seen in how societal values shape and are shaped by linguistic expression (Nguyen & Trang, 2016; Perry et al., 2024). The study also underscores the influence of bilingualism and cultural identification on linguistic choices, confirming the role of language in reflecting cultural nuance and facilitating effective communication (Marco, 2016; Qays, 2022). Additionally, the rise of digital communication, particularly social media, signals evolving language and literacy practices that demand cultural responsiveness in education. Integrating cultural components into language teaching materials can foster learners' intercultural competence and better prepare them for navigating diverse cultural contexts (Volovyk, 2021; Schroeder et al., 2015).

In relation to metaphorical thinking, the study reinforces the central claims of Lakoff and Johnson (1980), who argue that metaphors are rooted in embodied experience. However, it extends this theory by revealing how metaphorical patterns differ across cultures. Vietnamese stories commonly use metaphors drawn from natural elements and communal experiences, highlighting harmony with nature and social cohesion. In contrast, English texts frequently contain metaphors related to internal psychology, independence, and abstract reasoning. These observations support the work of Winter and Matlock (2017), who examine the sensorimotor grounding of metaphor, and Littlemore (2019), who demonstrates how metaphor varies across cultural and discourse contexts. The data confirms that while the cognitive basis of metaphor may be universal, its surface realizations are shaped by culture-bound communicative practices.

The findings also highlight culturally distinct patterns of frame activation, consistent with Fillmore's (1982) theory of Frame Semantics. Vietnamese narratives are centered on frames related to filial piety, communal harmony, and societal structure, whereas English narratives predominantly activate frames such as personal development, internal conflict, and individual agency. These patterns echo recent applications by Ziem (2014) in multimodal frame analysis and Torrent et al. (2018), who explore frame-based cross-lingual annotation. Musolff (2019) further supports this view by illustrating how frames are employed differently in political discourse depending on cultural context.

Semantic Field Theory, as explored by Trier (1931) and Lehrer (1974), also reveals important cultural contrasts in lexical categorization. Vietnamese texts display semantic clustering around family, duty, and social identity, while English texts focus on personal emotion, perception, and identity. These findings are consistent with Nerlich and Clarke (1999), who advocate for historical and pragmatic understandings of semantic fields, as well as Majid et al. (2018), who emphasize the need to extend semantic field theory beyond Indo-European language families. This suggests that the organization of semantic domains is not only a matter of lexical structure but also a reflection of cultural priorities.

Cognitive Grammar, as articulated by Langacker (1987, 2008), provides additional depth by showing how grammatical constructions encode conceptual content. English narratives make frequent use of complex syntactic forms to express psychological nuance and temporal variation. Vietnamese texts, in contrast, rely on concrete expressions and emphasize observable events and social roles. These findings align with Dancygier (2021), who discusses how construal patterns reflect cultural orientations and the cognitive framing of narrative events. Grammar, therefore, is not only a structural feature but a cognitive tool that carries cultural meaning.

The value of integrating these five semantic models is most evident in their combined analytical power. NSM identifies foundational meaning elements. CMT traces abstract reasoning to metaphorical source domains. FS reveals culturally activated knowledge structures. SFT exposes patterns of lexical organization. CG demonstrates how grammatical form reflects cognitive content. Taken together, they provide a comprehensive framework that captures the interplay between cognition, culture, and language in ways that single-theory analyses cannot achieve. This integration answers the interdisciplinary calls made by Bromhead (2020), Janda (2008), and Kövecses (2020), who argue for models that bridge linguistic theory with cultural and cognitive realities.

This study also responds to recent scholarship advocating for more culturally responsive semantic research. Ye (2017) introduced emotion concepts into NSM to capture cultural variation, while Levisen and Waters (2017) emphasized the need for analyzing cultural keywords in discourse. Our model contributes to this line of work by providing a robust framework that accounts for semantic variation across both grammatical and lexical levels. It moves beyond identification and classification by offering explanatory tools that clarify how meaning is generated, interpreted, and transmitted within and across languages.

In summary, the study demonstrates that meaning is the result of a dynamic interaction between universal cognitive mechanisms and culturally specific structures. The integrated model contributes theoretically by refining existing semantic paradigms and contributes methodologically by offering a practical framework for cross-linguistic analysis. It sets a foundation for future research on semantic diversity and provides applied benefits in language education, translation, and computational linguistics. These findings promote a more informed understanding of how language reflects the human experience across diverse cultural settings.

## 6. Conclusions

This study has demonstrated that the integrated application of five semantic models, namely Natural Semantic Metalanguage (NSM), Conceptual Metaphor Theory (CMT), Frame Semantics (FS), Semantic Field Theory (SFT), and Cognitive Grammar (CG), offers a comprehensive and nuanced approach to cross-linguistic semantic analysis. Through a comparative examination of Vietnamese and English short stories, the research uncovered key patterns that reflect both universal cognitive structures and culture-specific conceptualizations. NSM effectively identified semantic primes and their cultural significance, CMT revealed metaphorical mappings rooted in embodied experience, FS captured culturally activated frames of knowledge, SFT illustrated lexical relationships based on sense hierarchies, and CG demonstrated how grammatical constructions reflect conceptual meaning.

The novelty of this study lies in its theoretical synthesis and empirical application, presenting an innovative model that unites linguistic, cognitive, and cultural insights. Its implications are wide-ranging, particularly for enhancing culturally responsive language pedagogy, improving translation practices, and informing the design of multilingual semantic technologies. By showing how meaning is constructed through the interaction of language, thought, and culture, this framework contributes valuable perspectives to both theoretical linguistics and applied language studies. Future research should broaden the scope of analysis by incorporating a wider range of languages, genres, and communicative modes, such as digital discourse and spoken interaction. Furthermore, interdisciplinary collaboration with fields such as cognitive science, anthropology, and artificial intelligence will be instrumental in advancing the depth, precision, and real-world applicability of cross-linguistic semantic research.

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