Translation Beyond Words: A Cognitive Linguistic Framework for English-Arabic Meaning Construction

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Received: April 28, 2026 Accepted: July 7, 2026 Online Published: September 9, 2026

doi:10.5430/wjel.v17n1p12 URL: https://doi.org/10.5430/wjel.v17n1p12

Abstract

The present study explores the role of cognitive linguistics in English-Arabic translation, with particular attention to conceptual metaphor theory, frame semantics, and embodied cognition as key cognitive mechanisms underlying the processes of meaning construction and reconstruction. It critically challenges traditional translation paradigms based on formal or dynamic equivalence, positing that translation is not a process of direct linguistic substitution. Instead, it is a cognitively driven and culturally embedded act of conceptual negotiation. Within this conceptual framework, meaning is not a fixed or self-contained entity transferred between languages; rather, it is a dynamic construct continually shaped and reshaped by culturally situated cognitive frameworks and embodied experiential patterns. The study adopts a qualitative interpretive methodology, drawing on a purposive selection of linguistic data across a range of genres, including everyday expressions. The analysis reveals systematic divergences between English and Arabic in the conceptualization of abstract domains such as emotion, time, and social relations. English tends to foreground notions of linearity, autonomy, and instrumental rationality, whereas Arabic discourse more frequently emphasizes relational orientations, moral embeddedness, and experiential intensity. These divergences manifest in distinct metaphorical mappings and frame structuring, which often resist literal translation and necessitate adaptive processes of conceptual reconfiguration. The findings further demonstrate that both traditional equivalence-based paradigms and contemporary machine translation systems are limited in accounting for culturally and cognitively complex meaning. While technological tools may enhance lexical consistency and processing efficiency, they remain fundamentally insufficient for apprehending deeper conceptual and metaphorical dimensions of language. The study concludes that cognitively informed translation constitutes a more comprehensive and explanatory framework for understanding translation phenomena, as it systematically integrates the cognitive, linguistic, and cultural dimensions of meaning. Accordingly, it advocates for a paradigmatic shift toward cognitively grounded translation approaches that strengthen both theoretical understanding and practical effectiveness in English-Arabic translation contexts.

Keywords: Cognitive frames, cognitive linguistics, conceptual metaphors, cultural differences, embodied cognition, frame semantics, meaning construction, translation strategies

1. Introduction

The conventional view of translation which is often associated with literal or formal equivalence prioritizes close adherence to the source text, operating under the assumption that fidelity is best achieved through maximal textual correspondence (Shuttleworth & Cowie, 2014; Venuti, 2012). Within this view, the translator acts as a mediator of form, striving to reproduce the original with as much transparency as possible, even at the expense of naturalness or fluency in the target language (Pratt et al., 2010). By contrast, early translation theories, particularly Nida's (1964) concept of dynamic equivalence, emphasizes producing a natural and equivalent effect in the target language while maintaining fidelity to the source text (Nida, 1964; Baker, 2001). Therefore, this approach reconfigures the position of fidelity from form to effect, assuming that the success of a translation lies in its ability to elicit in the target audience a response functionally analogous to that of the source audience. Thus, while the conventional model supports text constancy as its guiding principle, dynamic equivalence highlights communicative effectiveness and reader reception, reflecting a more audience-oriented and practically informed concept of translation.

However, these approaches often remain primarily linguistic in orientation and fail to consider the profound cognitive and cultural processes involved in translation (Ali & Jameel, 2025; Mason, 2006). Cognitive linguistics, conversely, offers a more nuanced perspective on translation as a mean of constructing meaning rather than merely substituting words. Lakoff and Johnson's (1980) conceptual metaphor theory posits that cognitive linguistics contends human cognition is fundamentally metaphorical and rooted in embodied experience. From this perspective, language does not merely reflect reality; it is shaped by cognitive representations influenced by bodily experience, perception, and cultural contexts (Gibbs, 1994; Lakoff & Johnson, 1980; Kovecses, 2010). Cognitive mechanisms such as conceptual metaphors, framing, and embodied perception play a pivotal role in shaping how meaning is constructed, interpreted, and re-expressed across languages (Fillmore, 1982; Gentner & Wolff, 2000; Coulson, 2001).

Translation can be conceptualized as a complex cognitive process in which translators not only correlate linguistic elements between two languages but also engage diverse conceptual systems, cultural frameworks, and embodied knowledge structures (Kovecses, 2005; Lakoff & Johnson, 1980; Gutt, 2000). Cognitive mechanisms play a central role in shaping how meaning is constructed, interpreted, and re-expressed across languages. The profound disparities in the cognitive and cultural structures in English and Arabic languages give rise to divergent ways of conceptualizing abstract things such as emotion, time, and social relations. As a result, translators required to move beyond simple literal equivalence and engage in deeper conceptual negotiation for successful meaning transfer (Nida, 1964; Baker, 2001).

This paper, therefore, explores the contribution of cognitive linguistics to translation studies by examining the role of conceptual metaphors, frame semantics, and embodied cognition in the context of English-Arabic translation. It argues that translation is not merely a linguistic activity but a cognitively and culturally embedded process of meaning reconstruction, in which meaning is strategically reconstructed to attain functional adequacy and conceptual equivalence.

2. Literature Review

2.1 Cognitive Linguistics in Literary Translation

Metaphors and figurative language in literary translation often carry deep cognitive meaning, affecting both the emotional and conceptual dimensions of the text (Gibbs, 1994). Translating these concepts involves a sensitive approach to conceptual metaphors and cultural shades embedded in the source language (Kovecses, 2010). For example, the English metaphor "time is money" signifies a conceptualization of time as a valuable resource that can be saved or spent. While, the Arabic metaphor "الوقت كالسيف" (al-waqt kassayf, "time is like a sword") shifts the emphasis from value to the sharpness and irreversibility of time. This reflects that Arabic culture considers time as something that can cut through life, emphasizing how quickly it passes. This metaphor shows how the passage of time is not merely viewed as an economic resource in Arabic but as something much more valuable and finite, emphasizing the irreversible and inevitability nature of time.

Another illustrative example is the metaphor "the clock is ticking," in English, reflects the urgency of time passing. In Arabic, this idiomatic expression could be translated as "الوقت يركض" (al-waqt yarkudh, "time is running") or "الوقت يطير" (al-waqt yatyr, "time is flying"), both of which mean that time is slipping away uncontrollably. These expressions all convey the same idea of time passing rapidly, but the Arabic versions are often linked to more fatalistic ideas, like divine will or destiny. This shows how religious and cultural views can change how time is conceptualized. This shift from a more secular meaning in English to a spiritually influenced one in Arabic shows how embodied cognition and cultural context shape language.

Similarly, the English metaphor "a war of words" also shows how people think about conflict as a series of verbal attacks or disagreements. While translating the term "war of words" into Arabic as "حرب الكلمات," (harb al-kalemāt) this direct translation may evoke a militaristic frame for some people, but this same term may evoke other types of frames, including those pertaining to politics or even history. From an Arabic perspective, the concept could carry much deeper meaning as it could reflect the role that ideological conflicts and rhetorical fights have had in Arab political discourse in general. The shift from rather neutral English metaphor to the highly historically and politically charged metaphor reflects the importance of understanding different conceptual metaphors in English and Arabic.

Metaphors related to emotional experience in English and Arabic offer considerable insights on how cognition constructs meaning during translation (Lakoff & Johnson, 1980; Kovecses, 2005). For example, the expression "he bottled up his feelings" conceptualizes an image where emotions are considered as substances that are being put within a closed container that can be suppressed or controlled. The cognitive representation here is that emotions can be regarded as things that are created by people, but at the same time controlled and restrained. The literal translation into Arabic "عبّأ مشاعره في زجاجة" (abaa mashaeraho fe zujajah) would seem unnatural, and fail to convey the intended message. Instead, Arabic typically employs expressions such as "أخفى مشاعره" (akhfa mashaeraho, "he hid his feelings") or "كتم مشاعره" (katam mashaeraho, "he suppressed his feelings"), which shifts the conceptualization of physical containment in something to intentional concealment or restriction.

A further good example of metaphor is the English expression "he exploded with anger," which conceptualizes emotion as internal pressure building up within the body until it reaches a breaking point and explodes violently. This metaphor is based on the model of a pressure vessel, where the body acts as a vessel under increasing pressure. A literal Arabic translation is "انفجر غضبًا" (enfajara ghadaban) is in fact used and acceptable, but Arabic more frequently employs expressions like "ثار غضبه" (thāra ghadaboh, "his anger erupted") or "اشتعل غضبًا" (eshtala ghadaban, "he flared up with anger"), which shift the imagery from pressure and explosion to ignition and fire. This reflects a different embodied conceptualization of anger in Arabic, where the emotion is often understood as heat or flame rather than internal pressure. This highlights the particularity of the conceptualization of anger in the Arabic language in which it involves heat and flame rather than pressure.

Such salient examples emphasize that variations in figurative conceptualization are grounded not only in linguistic structures, but also in profoundly ingrained cultural and cognitive frameworks which necessitate careful intercultural negotiation. They show that optimal translation extends beyond simple lexical substitution to involve the strategic re-conceptualization of emotional meaning, ensuring that the translated expression aligns with the cognitive and cultural norms of the target language.

2.2 Cultural Conceptualizations in Translation

Cultural conceptualizations in translation between English and Arabic represent a highly intricate field that goes beyond mere lexical substitution, instead addressing the cognitive, social, and epistemological frameworks embedded in each language (Chandler, 2022; Eliade, 2021). In this sense, translation becomes a process of intercultural negotiation (Baker, 2001; Pratt et al., 2010), where meaning is not simply conveyed but reconstructed through diverse intellectual, value-based, and representational systems. To shed light on this phenomenon between English and Arabic, the following examples show how meaning is deeply rooted in culturally specific cognitive and socio-pragmatic frameworks, and thus resists direct equivalence.

A notably illustrative example of cultural conceptualization emerges in the rendering of the Arabic word "الزكاة" (zakat) into English word "charity," often translated as "صدقة" (ṣadaqa). While "charity" in English denotes voluntary acts of giving motivated by humanity, social responsibility, or empathy, "zakat" is a highly institutionalized practice with a firmly established religious basis in Islamic thought. It is not merely a charitable act, but a mandatory form of almsgiving, one of the five pillars of Islam, and is subject to precise legal, ethical, and distributional regulations. Unlike "charity", which is individualized and discretionary, "zakat" is an obligatory pillar, calculated according to specific criteria that depend on a person's wealth, and is directed towards specific categories of beneficiaries according to Islamic jurisprudence. Therefore, translating "zakat" as "charity" involves a conceptual distortion, eliminating its normative force, spiritual significance, and socioeconomic function within Muslim societies. This example highlights how translation must consider not only semantic approximation but also the broader religious, cultural, and institutional contexts that give meaning to important terms, underscoring the necessity for nuanced strategies such as clarification, differentiation, or selective retention of the source term.

A compelling illustrative case in English is "honor" which is often associated with integrity, achievements, and reputation. While, the concept "الشرف" (ash-sharaf) in Arabic has a wider meaning. It is linked not only to personal actions but also to family, community, and collective identity. In cultures where Arabic is spoken, especially in traditional and patriarchal ones, honor is often seen as something that the family can gain or lose. This implies that "الشرف" (ash-sharaf) is a collective concept rather than an individual one. When rendering "honor" into Arabic, it is essential to adopt both linguistic precision and cultural sensitivity in order to achieve an accurate and contextually adequate equivalence.

A useful point of departure in examining cross-cultural animal symbolism in translation is the word "owl." The cultural conceptualization of animal symbolism in English-to-Arabic translation exemplifies the complex interplay between language and culturally embedded cognition. In the case of the "owl", English discourse traditionally portrays this animal as a symbol of rationality, wisdom, and scholarly authority. However, its Arabic counterpart "بومة" (bomah) occupies a completely different semantic space, often associated with ruin, ominousness, or ill fortune in popular and cultural narratives. Accordingly, a literal translation can lead to a pragmatic incongruity, where the intended positive meaning is negatively reinterpreted by the target audience.

A particularly revealing illustration of culturally embedded conceptual divergence is manifested in the notion of "family," where English and Arabic embody two distinct cognitive frameworks. In English, the notion "family" refers to the nuclear family consisting of parents and children. However, the Arabic concept "عائلة" (aelah, "family") signifies a broader notion of extended family, including aunts, uncles, cousins, and sometimes family close friends. Within Arabic society, the family assumes an indispensable position in both social and emotional life, functioning as a central pillar of personal identity. Any translation of "family" from Arabic requires careful consideration of its cultural embeddedness, often requiring additional contextual information regarding the nature and role of family relations within the target culture.

Taken together, these instances highlight that translation from English to Arabic goes beyond mere structural or lexical substitution; it demands a nuanced engagement with diverse cultural conceptualizations of self, metaphor, and emotion. Accordingly, the translator must act as an intercultural interpreter, reconstructing meaning in ways that are not only linguistically accurate but also culturally sensitive and pragmatically applicable.

2.3 Technological Integration in Cognitive Translation

The rapid progress of machine translation and computer-assisted translation technologies has brought revolutionary changes into the field of translation studies both practice and theory (O'Hagan, 2019; Somers, 2003). However, despite their considerable progress, including those in the realm of neural machine translation, these technologies still encounter persistent difficulties in dealing with the cognitive and cultural components of meaning that lie at the heart of human translation processes (Krings, 2001; Castilho et al., 2017; Koehn, 2020). From the perspective of cognitive linguistics, this problem stems from the fact that the meaning of language is not only a linguistic construct realized through linguistic forms, but also a complex process of conceptualization based on embodiment, culture, and frame-based understanding (Lakoff & Johnson, 1980; Fillmore, 1982). Thus, computer systems that rely mainly on statistics and neural recognition may struggle with understanding the deeper conceptual mappings that determine the application of metaphorical and culturally embedded language. The problem becomes particularly evident in the translation of conceptual metaphors when literal translations often fail to preserve the intended cognitive function.

To exemplify this point, the English phrase "a flood of emotions" could be translated by machine translation systems into "سيول من العواطف" (soyul min al-awaṭif), which is both formally correct and semantically transparent. Nevertheless, from a cognitive linguistic perspective, this translation does not consistently attain optimal conceptual resonance in Arabic discourse. In numerous Arabic rhetorical traditions, the metaphor "بحر من المشاعر" (bahr min al-mashaer, "a sea of emotions") is more conventional and cognitively salient, as it aligns more

closely with rooted cultural image schemas of depth, vastness, and emotional immersion.

A similar problem comes up when translating cognitive disorientation metaphors like "he lost his train of thought." A literal machine output like "فقد قطار تفكيره" (faqada qiṭar tafkeerau) is structurally correct but conceptually wrong because the train schema that represents linear, continuous thought progression is not as common in Arabic conceptualization of cognition. A more cognitively natural equivalent would be "تشتت أفكاره" (tashattatat afkaruh, "his thoughts became scattered"), which changes the basic image schema from a straight line to a broken line. This shows that translation adequacy relies not only on lexical substitution but also on the reconfiguration of conceptual organization between languages.

A further case in point is the English expression "the company is bleeding money," and how machine translation tools interpret it as "الشركة تنزف المال" (al-sharika tanzif al-mal). While this interpretation is semantically transparent and understandable, it may not always be pragmatically adequate for use in the context of Arabic business discourse. The bleeding metaphor is highly evocative of a body-as-a-container frame with urgency and crisis implications. In Arabic, while "نزيف الأموال" (nazif al-amwal) is understandable, but a more traditional business context might favor a phrase like "تكبدت الشركة خسائر فادحة" (takabadat al-sharikat khasair fadiha, "the company incurs severe losses"), which transitions from a bodily metaphor to an economic-legal frame. This shows that metaphorical alignment isn't always the best choice when cultural discourse norms prefer abstraction to bodily dramatization.

In response to these challenges, recent advancements in neural machine translation have started to indirectly mimic elements of cognitive linguistic processing, especially via deep learning architectures trained on extensive parallel corpora (Barone et al., 2017; Alrashidi & Mathkour, 2026). Although these systems do not directly employ conceptual metaphor theory or frame semantics, they can statistically approximate how metaphors and contextual preference are used because they have access to large bilingual datasets (Goldberg, 2017; Koehn, 2020). However, their capacity to consistently select culturally suitable metaphors is still constrained, especially when the source and target languages depend on differing conceptualizations of emotion, cognition, economy, or discourse structure (Schaffner, 2004; Shuttleworth, 2014). This gap highlights the need to integrate explicit cognitive linguistic models into computer translation systems.

3. Method

3.1 Research Design

This study employs a qualitative, interpretive research design based on cognitive linguistic analysis. It attempts to analyze how meaning is constructed and reconstructed in English-Arabic translation through conceptual metaphors theory (Lakoff & Johnson, 1980; Kovecses, 2010), frame semantics (Fillmore, 1982), and embodied cognition (Gibbs, 1994). Rather than focusing on the frequency or statistical patterns, the research will focus on in-depth analysis of selected linguistic examples that reveal underlying cognitive processes. The methodology employed here is particularly suitable given the abstract and culturally embedded nature of metaphorical meaning.

3.2 Data Collection

The data used, in this study, comprise a purposefully selected set of original English texts and their corresponding Arabic translations. The corpus includes about 20 excerpts taken from diverse genres, such as novels, short stories, news reports, and political speeches. The selection of these genres was based on the abundance of metaphorical expressions and culture-specific terms that make them suitable for cognitive linguistic study. The selected excerpts followed specific criteria, which are (1) use of conceptual metaphors, such as time, emotion, and social relations; (2) cultural/conceptual divergence between English and Arabic languages; (3) cases where literal translation would result in semantic or pragmatic inadequacy in both the source and target languages. All examples, in this study, were extracted from authentic published sources. In case it was required, the standard or accepted Arabic translations were utilized for further analysis.

3.3 Analytical Framework

The analysis, in this study, is grounded in three key concepts of Cognitive Linguistics, which are:

1. The Conceptual Metaphor Theory: Which is a method of identifying metaphoric relationships between the domains of interest (for instance, emotions as containers, anger as fire).

2. Frame Semantics: Utilized to analyze the activation of specific cognitive frames by linguistic expressions and the subsequent shifts of these frames during translation.

3. Embodied Cognition: Employed to explore the influence of bodily experience and sensory perception on meaning representation in both languages.

3.4 Analytical Procedure

The analytical process involved four stages, which included:

1. Recognition: Using existing standards from studies on the cognitive theory of metaphor, and identifying metaphorical expressions in the English texts.

2. Classification: Each expression was classified according to its cognitive frame or underlying conceptual metaphor it represented.

3. Comparison: By examining the Arabic translations of all the metaphors, we found out whether they have been preserved, modified, or substituted with an alternative conceptualization.

4. Interpretation: The variations were analyzed in relation to the cognitive and cultural approaches, with specific attention to changes in

image schemas like container, path, and force, among others.

3.5 Analytical Model for Translation Shifts

To systematize the analysis, the study presents the following three-level hierarchy in metaphor transformation during translation:

1. Preservation of Metaphor: There is a similarity in mappings between the source and target texts.

2. Adaptation of Metaphor: The metaphor is retained, but there is a change in its linguistic structure.

3. Substitution of Metaphor: The source metaphor is replaced with another metaphorical construction, which better fits the target culture.

This framework provides a structured way of evaluating cognitive restructuration across languages.

3.6 Reliability and Validity

To ensure analytical reliability, the examples used were selected based on clearly defined and consistently implemented criteria, the interpretations were grounded in established cognitive linguistic theory, and most of examples were analyzed across different genres to ensure accuracy and representativeness. Statistical generalization is not the aim of this study; it seeks to achieve analytical generalizability by representing frequent cognitive patterns in translation from English to Arabic.

4. Results and Discussion

4.1 The Significance of Metaphors in Cognition and Language

Metaphors are more than just linguistic ornaments; rather, they are essential elements deeply embedded in the cognitive structures that construct our perception of reality (Guldin, 2010). Following the ideas of Lakoff and Johnson (1980), metaphors are key aspects to how we think, reason, and conceptualize the world. They are critical in structuring our understanding of abstract concepts by mapping them onto more concrete and familiar domains (Gentner & Wolff, 2000; Coulson, 2001). This process makes it easier to understand complex ideas and experiences by framing them within something more realistic.

Emotions are not simply universal psychological states; they are profoundly shaped by conceptual patterns specific to language and culture (Lakoff & Johnson, 1980; Kovecses, 2005). From the perspective of conceptual metaphor theory, both English and Arabic shape emotional experiences through systematic metaphorical structures. However, the basic mappings often differ in ways that reflect broader cultural patterns. In this context, the English-language metaphor "love is a journey" being conceptualized as a dynamic and evolving process that unfolds over time. This metaphor refers to a narrative structure, where love progresses through different stages, encounters difficulties, and eventually reaches its destination. The metaphor suggests movement, direction, and goal-oriented act, which are fundamental to the conceptualization of love in English-speaking cultures. Love, in this framework, is not seen as a static emotion but as a continuous journey that indicates growth, change, and effort, rather than seeing it as a mere emotion that needs to be preserved.

In this context, English and Arabic languages portray the concept of "love" through different metaphorical frameworks that reflect broader cultural and cognitive orientations. While English commonly employs the metaphor "love is a journey," to emphasize personal agency, movement, and progressive development, Arabic expressions "الحب قيد" (al- hub qaid, "love is a prison") conceptualizes love as a state of constraint, emphasizing emotional intensity, endurance, and limitation. These contrasting metaphors demonstrate how abstract emotions are structured across different cultures, which is a principle central to cognitive linguistics and conceptual metaphor theory. The English expression aligns with individualistic values that prioritize self-actualization and freedom of choice, while the Arabic one reflects more collectivist tendencies, where relationships are often linked to loyalty, duty, and social obligation. Therefore, translating such metaphors requires going beyond a literal equivalence; it necessitates careful adaptation to maintain the original conceptual meaning and cultural spirit in the target language.

A notable divergence between English and Arabic also appears in the conceptualization of jealousy. in English, which is often conceptualized through color metaphors, most notably the phrase "green with envy," which implies a culturally specific symbolic association between the color and emotion. In contrast, Arabic tends to conceptualize jealousy through a physical or psychological disturbance, as in the phrase "تأكله الغيرة" (ta'kuluh al-ghairah, "jealousy eats him"), where emotion is metaphorically portrayed as consuming and destructive force which reflects a more embodied and destructive conceptualization, highlighting the internal impact of the emotion rather than its outward manifestations.

From the perspective of conceptual metaphor theory, English language often conceptualizes time as a linear and measurable resource. This is obvious in expressions such as "saving time," "spending time," "running out of time," and "wasting time," which collectively instantiate the pervasive metaphor "time is money." The metaphor reflects how important productivity, efficiency, and economic values are in English culture. In this metaphor, time is conceptualized as a finite resource that can be saved, spent, or wasted, just like a product. The Arabic phrase "الوقت هو المال" (al-waqt huwa al-mal, "time is money") is a grammatically correct literal translation, but time is often talked about in terms of how it can't be gotten back instead of how much money it is worth. A better translation might be "الوقت لا يسترجع" (al-waqt la yustarja, "time cannot be regained"), which puts more emphasis on the loss of time than on its exchangeability. This small difference shows how Arabic speakers think of time as something that can't be regained, highlighting a more existential understanding of time constraints compared to the Western and commercial view of time.

Social relationships are not merely patterns of interaction, but rather cognitive and cultural constructs mediated by language. From conceptual metaphor theory perspective, English and Arabic shape social relationships through different metaphorical and cultural models

that reflect different views of self and community. English tends to conceptualize social relationships in terms of personal boundaries, individual autonomy, voluntary association, emphasizing flexibility, and independence. In contrast, Arabic often frames social relationships through interdependence, moral obligation and, hierarchy, viewing relationships as established and enduring social bonds. Social relationships are often conceptualized in English as ongoing projects that entail continual maintenance, as shown by the expression "working on a relationship," which implies sustained effort, individual responsibility, and negotiation to preserve interpersonal bonds. In contrast, Arabic discourse tends to conceptualize social relationships as enduring and socially inherited ties embedded within kinship structures, as reflected by "صلة الرحم" (ṣilat al-rahim, "maintaining kinship ties"), which foregrounds continuity, obligation, and the moral duty of maintaining family and communal connections.

Another divergence emerges in the concept of social relations. English expressions like "setting boundaries," "maintaining personal space," and "keeping distance" reflect a conceptual model that views individuals as independent units regulating access to their social sphere. In contrast, social relations in Arabic are often framed through interconnectedness and permeability of the self, as seen in the Jordanian dialect "بيننا خبز وملح" (baynana khubz wa milh, "there is bread and salt between us") is commonly used to symbolize a strong bond of trust and mutual obligation that has been established through sharing food and hospitality since bread and salt are the most essential and traditional ingredients of everyday meals in Jordanian culture, making it a culturally embedded idiom that often needs adaptation rather than literal translation. This is, also, applicable to "نحن أهل" (nahnu ahl, "we are family"). These expressions conceptualize relationships as deep and enduring bonds, imbued with a moral character, that transcend individual boundaries and emphasize shared identity and mutual commitment.

Metaphors are not merely ornamental elements of language; they are fundamental mechanisms through which humans conceptualize abstract concepts (Lakoff & Johnson, 1980; Gibbs, 1994; Kovecses, 2010) such as time, emotions, and social relationships. By mapping familiar and concrete experiences with intangible phenomena, metaphors shape how individuals think, feel, and interact, thus formulating both cognition and communicative practice.

4.2 The Influence of Culture on Metaphors

The impact of culture on metaphorical conceptualization is particularly evident in the contrast between English and Arabic, where divergent social and cultural frameworks give rise to different forms of figurative thought (Lakoff & Johnson, 1980). In English, figurative structures often reflect an individualistic, linear, and progressive outlook, as seen in concepts (Kovecses, 2005) such as commodifying time (e.g., "saving" or "spending" time) or viewing emotions as dynamic processes. In contrast, Arabic figurative language tends to be shaped by communal values, religious consciousness, and a heightened sensitivity to honor and social cohesion, where emotions are frequently conceptualized as states of intensity or containment, and social relations through hierarchical proximity and kinship (Bassiouney, 2014). Furthermore, the impact of Islamic discourse and traditional poetic heritage enriches Arabic metaphorical expression, embedding everyday language with spiritual and moral dimensions. These variations highlight that figurative language is not a universal cognitive tool used uniformly across languages, but rather a culture-influenced semantic system that reflects distinct epistemologies and lived experiences.

4.3 The Impact of Technological Integration on Cognitive Translation

The study findings indicate that technological integration has reshaped the domain of cognitive translation by strengthening the translator's ability to evaluate, process, and reconstruct meaning. Modern translation environments, especially those involving machine translation systems, corpus-based resources, and artificial intelligence, have introduced advanced layers of cognitive support that assist translators to manage large volumes of linguistic data with enhanced efficiency (Doherty, 2016). These technologies provide rapid access to syntactic, lexical, and contextual information, thereby alleviating cognitive burden and allowing translators to focus more on higher-level interpretive processes, including negotiation of meaning and discourse equivalence (O'Brien, 2012). The findings further reveal that technological integration does not replace the essentially human and cognitively grounded nature of translation. While sophisticated systems contribute to efficiency and consistency, they remain inherently restricted in their capacity to fully represent cultural specificity, conceptual nuance, and metaphorical mappings embedded in human language use. As a result, the translator's cognitive role becomes ever more central in monitoring, adapting, and refining output generated by automated machine systems. This interaction between technological tools and human cognition proposes a hybrid model of cognitive translation, in which highest-quality outcomes emerge through the integrated interaction of human conceptual mediation and technological assistance.

In a nutshell, computer-based tools such as translation memory software and terminology databases can be used to ensure consistency and increase efficiency; however, their role remains largely surface-oriented (Bowker, 2002; Somers, 2003). Such tools work best for the use of pre-translated materials, which have undergone verification, but cannot modify conceptualization or identify any changes in the imagery structure or metaphorical constructions employed. Accordingly, while these techniques improve lexical coherence, they do not fully address the deeper cognitive differences between source and target languages. However, advanced systems would integrate conceptual metaphor theory, frame semantics, and image schema theory to build computer architectures capable of interpreting, detecting, and adapting meaning at a conceptual level (Lakoff & Johnson, 1980; Fillmore, 1982). Through the combination of machine translation with insights from cognitive linguistics, future models are expected to achieve better translation outcomes similar to those achieved by humans, particularly in contexts involving languages with notable cultural and conceptual differences (Hutchins & Somers, 1992; Kruger & Kruger, 2017; Koehn, 2020), such as English and Arabic.

Ultimately, the study has examined the application of cognitive linguistics to English-Arabic translation, with particular emphasis on the role of conceptual metaphors, frame semantics, and embodied cognition in the process of meaning construction. The analysis reveals that translation is not simply a literal substitution of words, but a hard nut to crack involving the navigation of cognitive frames and cultural values. Through the principled application cognitive linguistic theories, translators can make informed decisions about how to adapt metaphors and frameworks to ensure that the meaning is accurately interpreted while respecting the conceptual structures of the target culture. Such an approach allows translators to avoid common pitfalls, including overly literal translations that obscure intended meaning or distort the message due to cultural incongruities. Therefore, cognitive linguistics offers a more nuanced and dynamic approach to translation by foregrounding the centrality of cognitive processes in understanding and conveying meaning. By attending to the underlying cognitive mechanisms that shape language, translators can develop more effective strategies for addressing the inherent complexities posed by linguistic and cultural divergence.

5. Conclusion

In conclusion, this study demonstrates that translation between English and Arabic is not simply a matter of linguistic equivalence, but rather a cognitively embedded and culturally shaped process of meaning construction. It is a process in which meaning is cognitively negotiated, culturally mediated, and then linguistically reformulated through diverse semiotic and conceptual systems. Building on insights from cognitive linguistics, particularly conceptual metaphor theory, frame semantics, and embodied cognition, the study reveals that meaning arises from deeply structured conceptual systems informed by embodied experience and cultural embedded paradigms. The study also reveals that English and Arabic exhibit systematic divergences in their conceptualization of abstract domains such as time, emotion, and social relations, reflecting distinct epistemological orientations. Whereas English privileges linearity, autonomy, and instrumental rationality, Arabic, by contrast, often tends to emphasize relationality, ethical embeddedness, and experiential intensity. These divergences necessitate conceiving translation as a process of conceptual reconciliation rather than literal substitution. The study also underscores the constraints of both traditional equivalence-based approaches and current machine translation systems in addressing culturally and cognitively complex meanings. Although technological tools enhance efficiency and lexical consistency, they remain insufficient in their ability to capture metaphorical and frame-based conceptual structures. This highlights the importance of integrating insights from cognitive linguistics into both translation theory and practice, as well as into future translation technologies. Ultimately, the study calls for a cognitively informed approach to translation, wherein meaning is understood as dynamically constructed through the interaction of language, cognition, and culture. In this way, both the theoretical insight and the practical efficiency of translation from English to Arabic are improved.

Acknowledgements

The authors are grateful to the Deanship of Research at Jadara University for providing financial support for this publication**.**

Author contributions

The author was solely responsible for conceiving and designing the study, conducting the research, analyzing and interpreting the data, writing the original manuscript, reviewing the manuscript, approving the final version, and is responsible for all aspects of the work.

Funding

This work was supported by Jadara University.

Competing interests

The author declares that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Informed consent

Obtained

Ethics approval

The Publication Ethics Committee of the Sciedu Press.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

Open access

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