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Four-Route Lexical Access Model in Learners' English-Chinese Translation

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Abstract:

This study delves into the intricate relationship between semantic meaning and word access in translation, employing four semantic meanings as a research framework within linguistic contrast. Drawing on the theoretical foundations of bilingual language processing, the research seeks to illuminate the cognitive processes involved in lexical retrieval and semantic coherence maintenance during translation tasks. Extending existing literature, which underscores the significance of semantic ambiguity and contextual cues in translation, this study explores how translators navigate semantic uncertainties. Preliminary findings reveal a prevalent tendency among students to employ a direct translation approach, characterized by fixed word meaning conversions and limited contextual comprehension prior to translation. Additionally, the study identifies four distinct pathways for accessing lexical concepts during translation: (1) involves activation of lemmas and concepts, leading to accurate translation outcomes, while (2) illustrate asymmetric lexical access, resulting in translation discrepancies. (3) Highlights difficulties in locating corresponding access concepts, hindering translation efforts, and (4) emphasizes the selection of seemingly similar but conceptually disparate Chinese lexical items directly from English access concepts, leading to mismatches. These findings underscore the importance of a nuanced understanding of bilingual lexical concepts to effectively navigate translation challenges.

Keywords: lexical meaning, word access in translation, English-Chinese translation, word processing, semantics

1. Introduction

The foundation of translation lies in language conversion, serving as the process of bilingual interaction. Observing translated texts provides insight into the outcomes of bilingual interaction. Shreve and Lacruz (2017) suggest integrating cognitive modules of translation to discuss language comprehension and production abilities, drawing upon language acquisition and brain development. They propose that findings from past bilingual acquisition studies can enhance our understanding of the translation process, addressing translation challenges and informing training models.

Translation involves reading the source language and writing in the target language, necessitating the transfer of linguistic concepts between languages. Thus, this translation process encompasses 3 major cognitive resources: reading, writing, and transfer. Previous research on translation competence emphasizes the ability to decode the original text, encode target language discourse, and navigate the transfer of meanings across cultures and discourse systems (Wilss, 1976).

In both decoding the source and encoding the target text, translators rely on a nuanced understanding of vocabulary and syntactic structures to orchestrate language with precision and clarity. Vocabulary, more than just a collection of words, embodies a tapestry of meanings, cultural nuances, and emotional subtleties. When decoding, translators delve into the depths of vocabulary to unravel the intended message of the source text, requiring both lexical knowledge and cognitive agility to select appropriate equivalents in the target language. Conversely, during the encoding phase, translators harness their mastery of vocabulary to carefully craft the target text, ensuring that it faithfully captures the essence of the source text while resonating with the target audience. This balance of linguistic precision and creative

expression underscores vocabulary as the cornerstone of the translation process, requiring both lexical knowledge and cognitive agility to select appropriate equivalents in the target language.

By juxtaposing findings with relevant research on multilingualism in second language acquisition, this study seeks to elucidate the methods of vocabulary extraction employed by student translators. Furthermore, the research will contribute novel insights into the cognitive processes underlying vocabulary translation, ultimately enhancing our understanding of translation competence. The implications of this research extend to the development of more effective translation training methods and tools, emphasizing its practical significance in the field of translation studies.

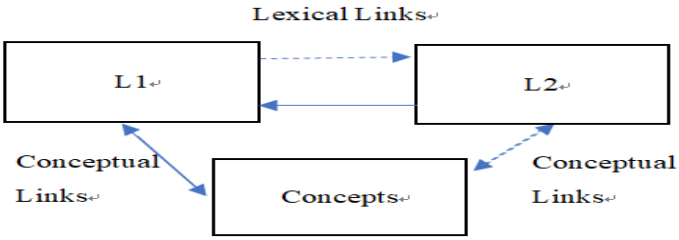
2. Literature Review

The activation process of reading is intricately linked to the significance of vocabulary, as it forms the foundation upon which comprehension is built. Zhang and Koda (2020) investigate how vocabulary knowledge influences the reading comprehension of second language learners. They emphasize that both vocabulary breadth—the number of words known—and depth—the richness of understanding for each word—are essential for enabling learners to access meaning and navigate diverse linguistic contexts effectively. This underscores the necessity of robust vocabulary in facilitating reading comprehension, a principle vital for translation tasks where understanding source texts is paramount.

Two primary theories explore how bilinguals connect words across their languages: word association theory and concept mediation theory. Regarding the connection between corresponding words in bilingual languages are under scrutiny. Word

association theory suggests a direct link between words in both languages, aiding in second-language acquisition by retrieving words from the first language. According to Meara (2009), this theory involves presenting a stimulus word, which triggers the spontaneous retrieval of the associated word. Stimulus words encompass nouns, verbs, adjectives, or numerals. Bahar and Hansell (2000) further discuss this theory in the context of free word association tests, emphasizing the significance of understanding the characteristics of response words associated with stimulus words. In contrast, concept mediation theory suggests that languages are interconnected through a shared conceptual system rather than through direct lexical associations. Kroll and Stewart (1994) propose a revised hierarchical model (RHM), which illustrates how bilingual individuals shift from relying on lexical connections to developing more concept-based associations as their fluency increases (see Figure 1).

Figure 1: The revised hierarchical mode (Kroll & Stewart, 1994, p. 158)

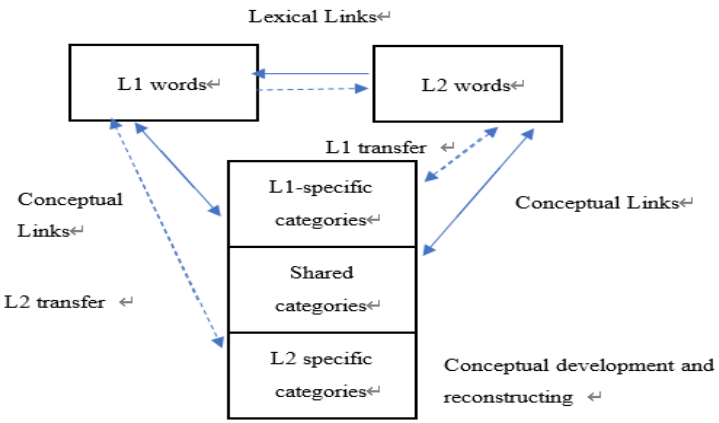


This model asserts that early in language acquisition, learners depend heavily on their first language to access meanings in the second language. However, as proficiency grows, the strength of these associations evolves, with stronger links developing from the second language to the first. This framework indicates that

conceptual access is more efficient in the first language, suggesting a complex interplay between vocabulary and translation processes.

In Pavlenko's (2009) modified hierarchical model (MHM) (see Figure 2), a modification of the traditional hierarchical model of bilingual language processing is proposed. The RHM accounts for the dynamic and bidirectional nature of language representation in bilinguals, emphasizing the influence of factors such as language proficiency, language use patterns, and context on lexical access and conceptual processing. The MHM acknowledges that the organization of a bilingual's language systems is shaped by their unique linguistic experiences, providing a more nuanced understanding of how vocabulary is processed in translation.

Figure 2: The modified hierarchical model (Pavlenko, 2009)



While existing theories provide valuable insights into the cognitive mechanisms of translation, they also present limitations. The Revised Hierarchical Model (RHM), for instance, effectively outlines these mechanisms but often overlooks the variability in individual experiences and the contextual influences on vocabulary access. Much of the literature has focused primarily on adult bilinguals, leaving a significant gap in understanding how student translators specifically process vocabulary during translation tasks. This gap highlights the necessity for more in-depth analyses of how students access and manipulate vocabulary, particularly when confronted with challenges. Several studies have utilized methodologies similar to those proposed in this research, emphasizing that a focus on vocabulary processing can enhance translation quality and comprehension.

This study aims to fill the identified gap by concentrating on vocabulary translation through the analysis of student-translated texts. By employing lexical contrastive analysis and qualitative methods, the research will investigate how students extract and represent vocabulary meanings from source texts in their target translations and the cognitive strategies they employ throughout this process. Ultimately, this research seeks to address the following questions: How do student translators navigate and utilize their vocabulary during translation tasks, and what cognitive processes and underlying factors influence their decisions when selecting vocabulary equivalents? Additionally, how do student translators interpret and convey the meanings of vocabulary from source texts in their translations, particularly in light of the errors, unclear meanings, and lexical transfer phenomena identified through contrastive analysis?

Insights into the cognitive processes involved in vocabulary translation not only contribute to theoretical understanding but also have practical implications for

translation training. The findings from this research could inform the development of targeted training programs designed to enhance vocabulary processing skills among student translators. Ultimately, this could lead to improved translation outcomes and better preparedness for professional practice. Therefore, this literature review provides a comprehensive overview of the current state of research on vocabulary in translation, setting the stage for a deeper investigation into the vocabulary processing strategies employed by student translators in the forthcoming study.

3. Research Method

Baker (2018) proposes a bidirectional relationship between contrastive analysis and translation, suggesting that translating specific texts can provide valuable insights for contrastive analysis while helping clarify the difficulties encountered during translation. In this study, we apply Baker's ideas by employing a lexical contrastive analysis approach to identify semantic discrepancies between student translations and the original texts. This method is particularly suitable for our research questions, as it allows for a systematic examination of how students process vocabulary and the specific challenges they face during translation.

The analysis will be conducted in several steps. First, we will collect a corpus of translated texts from students engaged in translation tasks. Next, we will compare these translations to their source materials to identify instances of semantic discrepancies and lexical choices. This comparison will involve coding the translations to categorize various types of discrepancies, such as incorrect word choices, omissions, or misinterpretations. Through this structured framework, we

aim to deduce the cognitive processes involved in translating vocabulary based on the semantic contrastive analysis of students' translated work.

Ethical considerations are paramount in this study. We will obtain informed consent from all student participants, ensuring they understand the purpose of the research and their right to withdraw at any time. To protect their identities, all data will be anonymized. The study employs lexical contrastive analysis alongside qualitative methods to achieve a comprehensive understanding of the cognitive processes involved in vocabulary translation. Insights gained from this approach will contribute to the theoretical framework of translation studies and inform targeted interventions for enhancing translation training. Ultimately, this methodology underscores the significance of understanding students' vocabulary processing in translation contexts.

3.1 Participants

The research comprises 72 juniors enrolled in the mandatory subject of Translation at a university in northern Taiwan, instructed by the researcher. This year-long, two-hour-a-week subject focuses on developing students' translation knowledge and practising sentence translation skills in the first semester, while in the second semester, students practice translating paragraphs and passages to improve their ability to produce fluent short translations. The data utilized in this study comprise student assignments gathered throughout the exercises conducted during the second semester of the course.

3.2 Data Collection

The research data consists of weekly self-practice translations of approximately 150-word English paragraphs to Chinese submitted by students, allowing ample time to seek resources to complete the translations. An online platform is used to collect the assignments, with the analyzed data being the original files before student revisions. The data collection does not include assignments that were submitted late, nor sentences with high similarity to machine-translated sentences. Therefore, the number of accepted translations varies for each topic, with approximately 64-72 student assignments collected for each theme. The translation texts encompass a wide range of genres, including narratives, speeches, essays, and news articles in areas such as politics, finance, and technology, constituting 12 distinct types of passages. The data allow for a qualitative analysis of student translation practices and strategies, providing valuable insights into their cognitive process during translation.

3.3 Language Analysis

Building on Baker's (2018) lexical analysis framework outlined in "In Other Words: A Coursebook on Translation," this study employs Cruse's (1986) lexical linguistics classification, which categorizes lexical meaning into four categories: propositional meaning, expressive meaning, presupposed meaning, and evoked meaning. Through these classifications, the study scrutinizes student translation vocabulary, contrasts lexical disparities between English and Chinese expressions, identifies reverse transfer trajectories, and analyzes the accessibility of words in translated texts.

The research conducts a linguistic contrastive analysis of the source text and target text by the following process. First, student translation vocabulary is compared with the English text vocabulary sentence by sentence to identify errors, unclear

meanings, and instances of awkward words or usage in sentences. The identified words are then classified according to the four categories of vocabulary meaning. Additionally, the analysis examines lexical transfer phenomena and cross-linguistic influencing factors within each category, allowing for a deeper understanding of how these elements impact translation. The study also aims to induce the cognitive learning levels necessary for each type of vocabulary meaning, ultimately deriving a psychological cognitive model of vocabulary translation. This comprehensive approach on only sheds light on student translation practices but also enhances our understanding of the cognitive process involved in the translation of vocabulary.

4. Findings

Vocabulary plays a crucial role in language, reflecting societal dynamics and intellectual evolution, thereby showcasing the influence of language and culture on thought. Linguistically, the smallest meaningful unit is the morpheme, while the word stands as the smallest unit that can function independently within a language (Bolinger & Sears, 1968). Whether within a single language or across different ones, each word carries distinct semantic components, leading to the absence of a one-to-one correspondence between any two words, even those closely related in meaning. During translation, translators strive to select the most fitting terms, yet even synonymous words may exhibit disparities, whether semantically or contextually. Without sufficient linguistic sensitivity in word choice, opting for direct translations based solely on dictionary meanings can result in disconcerting translations for readers, as the usage of these terms may deviate from their linguistic norms. A slight difference in wording can yield significant consequences; hence, meticulous

consideration is essential when addressing translation challenges, particularly concerning word selection.

This study examines students' vocabulary usage in translations. Through the analysis of reverse transfer phenomena, which identifies disparities between English and Chinese vocabulary expressions.

4.1 Propositional meaning

Propositional meaning refers to the referential implications of vocabulary in the real world (Cruse, 1986). The error in proposition meaning in translation should indeed be considered as a fundamental misunderstanding of the word's meaning, which constitutes a binary translation error (Pym, 1992). However, such errors are often related to language ability, which is not the aim of discussion in this study.

Aside from binary error, seemingly identical translated words may lead to interpretational differences due to varying semantic fields, necessitating an understanding of context and culture, as well as possessing expertise in the field, to cultivate sensitivity to the original text's semantic field. Otherwise, while the words may be translated accurately, the choice of words in the translation may leave readers puzzled, affecting the precision of the translated text's propositional meaning (see Example 1.).

Example 1.

Source Text:

…the **handover** from **public to private demand** in the U.S. economy **stalled**…

Student Translation:

Měiguó jīngjì cóng gōnggòng xūqiú zhuǎnyí zhì sīrén xūqiú

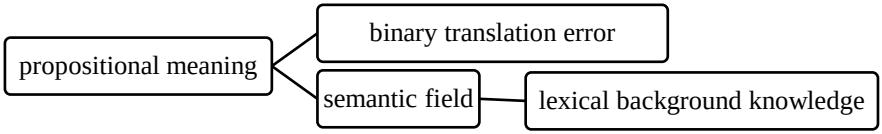
American economy from public demand transfer to private demand
美國 經濟 從 公共 需求 轉移 至 私人 需求
xiànrù tíngzhì
fall into stall
陷入 停滯

In Example 1, "gōnggòng xūqiú", "sīrén xūqiú", "zhuǎnyí", and "tíngzhì" are literally translated from the English dictionary, representing a form of lexical transfer. "Public demand" refers to constructions or policies by the public sector to meet societal needs. Through increased public budget expenditures, the government stimulates the economy, further driving private consumption, which aims to satisfy private demands. This process of "transfer" is a driving force hidden within the semantic field of "handover." Therefore, the original intention of "the handover from public to private demand" is for the government to stimulate private consumption by expanding public spending, thereby achieving the goal of economic stimulation. Transferring a single semantic unit into Chinese cannot fully elucidate its meaning. This is an example where the proposition meaning in Chinese cannot be satisfied. The Chinese translation should be specifically related to "expenditure" and "consumption" representing public demand and private demand respectively. In other words, precise understanding and identifying semantic links are necessary to convey meanings that literal translations in Chinese cannot achieve.

The issue of proposition meaning involves a more detailed analysis of the contextual and pragmatic factors that influence translation accuracy (see Figure 3). When a translation error arises from a straightforward language mistake, it can often be classified as a binary error. However, a more complex scenario emerges when

translators lack sufficient comprehension of the semantic field associated with the vocabulary, particularly in specialized contexts. In such cases, they may inadvertently transfer surface meanings into their translations, leading to inaccuracies in the Chinese expression. This type of error reflects a failure to grasp the contextual nuances and pragmatic implications of the source material, resulting in a disconnect between the intended meaning and the translated output. Understanding the interplay between cognitive processing and contextual knowledge is essential for enhancing translation quality, as it highlights the need for translators to engage deeply with the subject matter and the specific linguistic environment in which they are operating.

Figure 3: Conceptual analysis of propositional meaning



4.2 Expressive meaning

Expressive meaning conveys the speaker's feelings and attitudes (Cruse, 1986). Even synonyms in the same language may have slight differences in expressive meaning. When selecting vocabulary for translation, one should search for terms that best align with the original author's stance and thoughts, imbuing them with equivalent emotional nuances (see Example 2.).

Example 2.

Source Text:

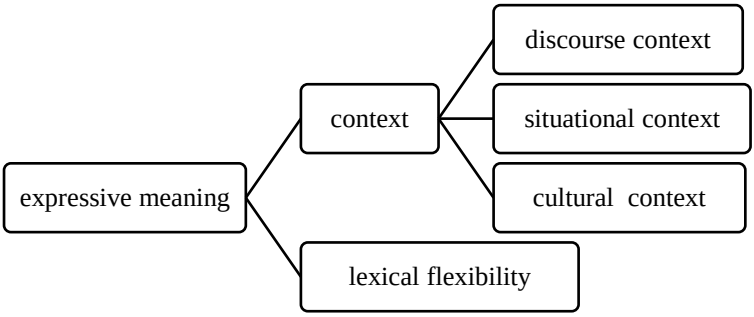
While seeing the funny side, Nabuco warned that wild animals in the area pose a serious risk: "I'm a strong woman; an old person or a child would have died. I'm a **strong** woman; an old person or a child would have died.

"Strong" in Example 2. can modify various nouns, leading to diverse corresponding terms in Chinese. Students' translations include "qiángzhuàng" (physically strong, 強壯), "jiānqiáng " (mentally strong, 堅強), "yǒulì " (powerful, 有力), "yǒngjiàn " (brave and strong, 勇健), "jiànkāng qiángzhuàng " (healthy and strong, 健康強壯), and even "nǚ qiángrén " (successful career woman, 女強人). While these terms convey the proposition meaning correctly, they yield different interpretations in expressive meaning in Chinese. Particularly, "qiángzhuàng" implies a gigantic body shape in Chinese, "jiānqiáng" signifies mental strength, "yǒulì" denotes physical strength, "yǒngjiàn" suggests courageous strength, and "nǚ qiángrén" often refers to females having career success. These expressive meanings may overinterpret the speaker's intended emotions in the source text since she merely wants to convey that she is in good health condition being capable of enduring such dangers. Some students opt for reduction translation, rendering it as "hǎi hǎo jīntiān shì wǒ bèi zá zhòng" (luckily it was me who got hit today). Readers, by inferring the speaker's intended meaning from the context, may find this rendering closer to the original expressive meaning.

Biased expressive meanings in translations can result in a feeling of disconnect. While alienation can be utilized as a translation technique, students need to improve their linguistic flexibility in lexicons. More importantly, they should understand how context influences language use. Therefore, in the teaching of translation, it's advantageous to familiarize students with the concept of context and bolster their metacognitive awareness of translation processes.

In essence, the conceptual analysis of expressive meaning (see Figure 4.) involves two key components: lexical flexibility and context. Context, in turn, encompasses three main aspects: discourse context, situational context, and cultural context proposed by Hu (1994). Discourse context relates to the internal environment of the discourse, aiding language recipients in constructing meaning from the text itself. Situational context encompasses external factors such as participants, events, and temporal and spatial backgrounds. Meanwhile, cultural context encompasses a broader spectrum, including history, culture, customs, sentiments, habits, and value systems that shape the language community. This category represents the highest level of context. The factors underlying biased expressive meanings likely arise from a lack of cognitive understanding of context and insufficient flexibility in vocabulary usage.

Figure 4: Conceptual analysis of expressive meaning



4.3 Presupposed meaning

Presupposed meaning can be categorized into selectional restrictions and collocational restrictions (Cruse, 1986). Firstly, selectional restrictions pertain to the

specific functions that certain vocabulary assumes in proposition meaning, with collocational relationships embedded within the semantic defaults of the vocabulary. For example, the Chinese expression "yòng xīn" (put heart into, 用心) requires the subject to be people. It's noteworthy that even for similar or identical vocabulary, two different languages may have completely different selectional restrictions. Secondly, collocational restrictions are arbitrary and depend on the customary usage of the language. For instance, in Chinese, we "pēn" (spray, 噴) perfume instead of "wear".

4.3.1 Selectional Restrictions. A prime example of selectional restrictions is the backward transfer of English noun phrases in this research. When the syntactic function of the original vocabulary is maintained and directly translated into Chinese, it gives rise to problems with selection restrictions (see Example 3).

Example 3.

Source Text:

…Its expansion over the following two and a half centuries was largely a result of an expanding British colonial footprint…

Student Translation:

Tā de kuòzhāng zài hěn dà chéngdù shàng shì yīngguó zhímín zújì …

Its expansion in big degree up is British colonial footprint

它的 擴張 在 很大 程度 上 是 英國 殖民 足迹

kuòzhāng de jiéguǒ

expansion 's result…

擴張 的 結果

In Example 3, both the English nouns "expansion" and "result" are directly translated into Chinese nouns. Although "kuòzhāng" and "jiéguǒ" can be used as nouns in Chinese as in "shāngyè kuòzhāng" (business expansion, 商業擴張) and "kǎoshì jiéguǒ" (exam result, 考試結果). However, the collocation of the student's translation violates the selectional restrictions in Chinese, resulting in the redundancy of the sequential combination. Furthermore, the pronoun " Tā de " is a rare usage in Chinese. Chinese is a language with a high degree of pronoun omission, often using zero pronouns to replace information already mentioned in the context. The frequency of third-person pronouns in English discourse is much higher than in Chinese. Thus, it is evident that the use of third-person pronouns in Chinese is already rare, and adding the possessive "de" ('s, 的) to denote possession further represents an uncommon usage in its presupposed meaning.

In addition to the reverse transfer of English noun phrases, the grammatical form such as superlative vocabulary transfer from English can also lead to mismatches in selectional restriction in Chinese translation (see Example 4).

Example 4.

Source Text:

Truly, money is important, but it does not deserve to be pursued with the best of your abilities.

Student Translation:

Dàn nà bìng fēi nǐmé zuì gāi zhuīqiú de.

But that isn't you most should pursue (aux.)

但 那 並非 你們 最 該 追求 的

Although the word "best" isn't translated directly, the superlative form "the" is retained with "de," showing the trace of English influence, resulting in the awkward

arrangement of the Chinese sentence. Fixed expressions in Chinese are better alternatives such as "jiéjìn suǒnéng" (use out everything, 傾盡所有) and "bùgù yīqiè" (don't care anything, 不顧一切). In Chinese, "jiéjìn" has the meaning of superlative as using all the methods to reach the goal while "bùgù yīqiè" refers to "cares about nothing but". Chinese employs specific words to convey certain meanings found in English grammatical expressions, illustrating linguistic typological differences. This also suggests that familiarity with words and fixed expressions influences translation performance.

The determination of collocations by selectional meaning underscores the nuanced nature of language, where even similar words can exhibit diverse combinations. Certain vocabulary items possess expansive collocational ranges, facilitating their usage with various words and conveying multifaceted meanings. Such versatile collocations often exhibit vague semantics, contributing to their richness and complexity.

In language acquisition, frequently used collocations become ingrained as chunks in learners' minds, enabling them to swiftly grasp their intended meanings upon encountering them. Strengthening linguistic chunking proves pivotal in addressing translation challenges stemming from learners' constraints in selecting appropriate words or collocations.

4.3.2 Collocational Restrictions. English prepositions serve to connect sentences and convey the relationship between preceding and subsequent contexts. When translated into Chinese, which relies heavily on word order and context to convey meaning rather than grammatical form changes, the form should be reduced (see Example 5).

Example 5.

Source Text:

Despite an escalating conflict in Syria and mounting civil unrest in Europe, the world became a more peaceful place in the last year….

Student Translation:

Jǐnguǎn Xùlìyà chōngtū de shēngwēn hé bù jiànduàn de

Despite Syria conflict (adj) escalating and no stop (adj.)

儘管 敘利亞 衝突 的 升溫 和 不 間斷 的，

Ōuzhōu nèiluàn, dànshì shìjiè zài qùnián biàn dé hépíng hěnduō.

Europe civil unrest but world in last year become peaceful a lot

歐洲 內亂， 但是 世界 在 去年 變得 和平 許多

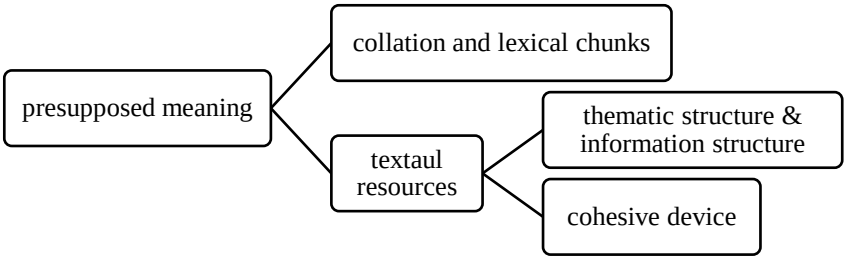
The translations directly transpose the nominalized structures from the original text to the Chinese translations, exacerbating issues with the collocational restrictions of Chinese conjunctions. In translation, the Chinese clause following "jǐnguǎn" is incomplete, making it challenging for "dànshì" to establish a cohesive contrast between the preceding and subsequent clauses. By taking away "de", the Chinese noun phrase turns into topic-comment construction, which leads to the sentence pair, contrasting the sentence afterwards.

Vocabulary translation extends far beyond mere equivalence of meaning explained in dictionaries, primarily because of the disparities in textual characteristics and semantic scope. It encompasses a deep comprehension of how words collocate within distinct languages, a factor that fluctuates depending on the language in question. Hence, attaining equivalence in vocabulary translation demands more than just a reliance on dictionary word-for-word correspondence. Instead, it necessitates an expansion of consideration to include syntactic and discourse levels. This broader

perspective ensures the coherence and compatibility of meaning within the translated text.

Translators should navigate language transformation consciously. This requires understanding the vocabulary collocation required in both directions and familiarizing themselves with common language chunks. Furthermore, it's crucial to understand how different languages shape discourse. This includes resources such as thematic structure and information structure, as well as non-structural resources like grammatical cohesion such as reference, conjunction, substitution, and lexical cohesion (see Figure 5).

Figure 5: Conceptual analysis of presupposed meaning



Besides lexical information, it is crucial for translation to acknowledge the diversity in discourse development patterns across languages. When translation ventures into the realm of discourse, it becomes essential to recognize and accommodate these variations. This entails a comprehensive grasp of the rhetorical strategies inherent to the target language. Such an understanding empowers translators to craft translated paragraphs that are not only clearer and more precise but also align more effectively with the structural coherence of the target text.

Understanding the collocation patterns and discourse structures of a language allows for flexible adaptation rather than rigidly translating source language vocabulary and discourse resources verbatim into the target language. Given the inherent diversity in linguistic characteristics and cultural nuances, it is considered unattainable to achieve complete equivalence in translation. Especially at different levels such as vocabulary, syntax, and discourse, there may be factors that resist direct equivalence. However, translators can employ translation strategies and hierarchical shifts to achieve a relative equivalence in meaning.

4.4 Evoked meaning

Evoked meaning refers to the associations, emotions, or imagery that a word or phrase may trigger in the mind of a reader, beyond its literal definition (Cruse, 1986). This concept highlights how words can carry connotations and evoke mental images that enrich the understanding of a text, influencing the reader's interpretation and emotional response. Dialects, influenced by geographical location, historical periods, and social hierarchies, give rise to distinct terminologies and expressions. These linguistic variations reflect the diversity within a language community and underscore the importance of understanding regional linguistic norms.

Evoked meaning refers to the associations, emotions, or imagery that a word or phrase may trigger in the mind of a reader or listener, beyond its literal definition. It involves the additional connotations or implications that a word carries based on cultural, personal, or contextual factors. These associations can be subjective and may vary among individuals or cultural groups.

Context, a crucial determinant of language use, encompasses various dimensions including field, mode, and tenor, as outlined by Halliday (2014). Field refers to the

context where language is used, covering themes, discourse goals, and specialized terminologies. For instance, medical and legal languages vary significantly due to their distinct fields. Mode pertains to how language is expressed, including oral, written, and other forms like sign language or digital communication. Each mode has its conventions, affecting vocabulary and style choices. Tenor highlights social dynamics in communication, considering power dynamics and relationships between speakers. Language may vary based on formality and intimacy, such as among colleagues versus family or friends (see Example 6).

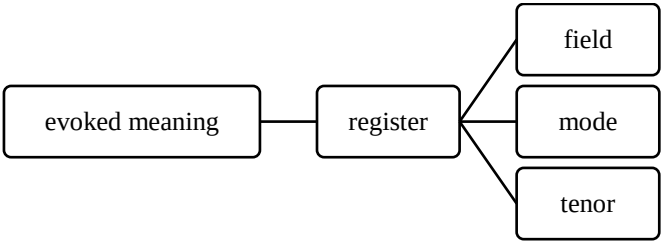
Example 6.

Source Text:

"Do not you want to know who has taken it?" cried his wife impatiently. "You want to tell me, and **I have no objection to hearing it.**" This was invitation enough.

Different cultures have different expectations regarding the appropriateness of language use in specific situations, so translations must align with both the expectations of the context and the appropriate register (Halliday, 2014). From the context, this dialogue in Example 6. appears to be a casual conversation between a long-married couple. The tone of the wife in the English source text seems eager to share gossip, while the husband responds in a neutral tone as he replies " I have no objection to hearing it." Some students used the Chinese fixed expression "xǐ ěr gōng tīng"(wash ear attentively listen, 洗耳恭聽), which is too formal and does not match the tenor of conversation between an elderly couple. Besides the properness of the target language, the register should also be considered in order to follow its evoked meaning (see Figure 6).

Figure 6: Conceptual analysis of evoked meaning



A keen understanding of the field, mode, and tenor of both the source and target languages, enabling translators to accurately convey the intended meaning while respecting the cultural and contextual intricacies of language use.

5. Discussion

This research underscores that vocabulary translation extends beyond mere word-for-word conversion; it necessitates a comprehensive interaction across various linguistic levels to align with target language conventions. Understanding vocabulary is a multifaceted endeavor, as illustrated by Ringbom's (1987) six dimensions of vocabulary, which encompass lexical access, morphophonology, syntax, semantics, collocation, and interconnections with other words. This study specifically investigates how a comprehensive grasp of propositional meaning, presupposed meaning, expressive meaning, and evoked meaning can elucidate discrepancies between students' translations and the original text.

A critical finding is the phenomenon where the lexical access of one language can impede that of another, as noted by Meara (2004). Students often face challenges in accessing appropriate words in the target language, even when they have a clear concept in mind. This difficulty can lead to a reliance on surface meanings, resulting

in inaccuracies in the translation process. Furthermore, the notion that translation difficulties arise solely from the perceived inadequacies of Chinese expression is an oversimplification. Translation challenges stem from differing language logics—lexical, syntactic, and discourse structures—that are intricately connected.

Segalowitz (2007) delves into the intricate relationship between linguistic and cognitive elements in bilingual language processing, offering valuable insights into the mechanisms facilitating efficient lexical access among bilingual individuals. This highlights the complexity underlying text comprehension, which involves the multifaceted representation of vocabulary knowledge, encompassing lexeme, lemma, and concept. In inflected languages like English, the lemma functions as the semantic core of the lexeme, with distinct distinctions between lexemes and lemmas arising from word class variations. Conversely, in non-inflected languages such as Chinese, lexemes and lemmas typically share the same representation in lexicons. Chinese word part of speech is primarily shaped by word order and positional relationships rather than explicit morphological markings. Consequently, navigating Chinese vocabulary necessitates an understanding of syntax, discourse, and other language structures to determine the appropriate usage of vocabulary.

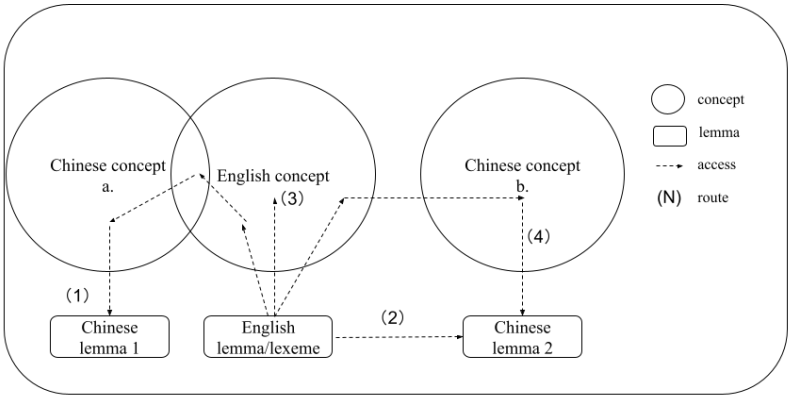
Furthermore, concepts are constructed through the amalgamation of sensory perceptions, impressions, images, features, or other lexical sets, serving as the psychological representation of words. Translators must decipher how to extract conceptual meaning when translating texts and understand the patterns of connection between translated and original lexical items. Essentially, they need to comprehend how similar-meaning words are stored in the minds of multilingual learners and identify the psychological associations accessed or triggered by these words.

Analysis of the four lexical meanings reveals that students heavily rely on a literal translation mode, failing to grasp the necessary contextual representation in the target language. This observation aligns with the asymmetric lexical access pattern proposed in Kroll and Stewart (1994), where translation from the second language to the first language occurs directly from the lexical access. This phenomenon is linked to language learning approaches, where rote memorization of vocabulary is emphasized during second language acquisition. This process often leads to English words being stuck onto Chinese equivalents, making it difficult to expand the conceptual levels corresponding to English words, thus resulting in insensitivity to the original text's context. Consequently, difficulties in reading comprehension and lexical translation arise, as individuals struggle to flexibly switch between languages and instead rely on previously learned or dictionary-translated words. In summary, this research significantly advances the understanding of the Four-Route Lexical Access model by elucidating the complex interplay between lexical knowledge, cognitive processes, and contextual understanding in the translation process (see Figure 7).

As illustrated in Figure 7, the model delineates four distinct pathways for accessing lexical concepts. Lexical items are categorized into lexeme and lemma; however, in the case of Chinese, which is a non-inflected language, there are few distinct lexemes. This results in a lack of separation between lexemes and lemmas within this mental model. Pathway (1) depicts the activation of the lemma, which connects to the semantic core upon encountering an English lexical item, subsequently linking to the stored concept of that word. When this concept intersects with the corresponding Chinese concept, it enables the production of the correct Chinese lexical item. Conversely, Pathway (2) illustrates asymmetric lexical access, where

English lexical items directly correlate with Chinese counterparts, often leading to translation issues such as misinterpretation or contextually inappropriate translations.

Figure 7: Four-route lexical access model in English-Chinese translation



Pathway (3) involves correctly identifying the English access concept but struggling to locate the corresponding Chinese access concept, which impedes the ability to match a Chinese lexical item and may lead to code-switching. However, in translation scenarios, students must identify the corresponding Chinese lexical item, which prompts Pathway (4). In this pathway, an ostensibly similar yet conceptually distinct Chinese access concept is directly selected from the English access concept, resulting in a mismatch between the concepts and lexical items in English and Chinese. The varying depth of intersection between English and Chinese access

concepts underscores the importance of nuanced comprehension of bilingual lexical concepts to navigate translation challenges effectively.

Even when dictionary equivalents are identified, significant differences in lexical fields and conceptual depth may still exist. In such cases, source language transfer often involves merely conveying the surface meaning of learned words, without a true understanding of the underlying concepts. This shallow comprehension impedes the ability to accurately convey the nuanced meaning of the original text, ultimately affecting translation quality. Thus, bridging the gap between literal word-for-word translation and a deeper understanding of both source and target languages is essential for effective lexical translation and fidelity to the original text's intended meaning.

The Four-Route Lexical Access model emphasizes the necessity of a multifaceted approach to vocabulary that transcends mere word-for-word translation. It highlights the critical importance of integrating various linguistic dimensions, such as semantics, syntax, and discourse, into translation practice. This comprehensive framework not only facilitates more effective communication across languages but also deepens an understanding of the cognitive mechanisms that underpin successful bilingual processing and translation accuracy.

6. Conclusion

This study provides critical insights into students' vocabulary usage during translation tasks, revealing the complexities involved in the process. The analysis demonstrates that vocabulary translation is not merely a word-for-word exercise; it requires a nuanced understanding of both the source and target languages, including their cultural contexts and syntactic structures. Notably, the findings highlight the

phenomenon of reverse transfer, wherein students' native language influences their target language production, often leading to inaccuracies due to insufficient comprehension of semantic fields and underlying concepts.

These findings directly address the research questions by illustrating how students navigate vocabulary selection and the cognitive challenges they encounter. The results indicate that students frequently rely on literal translations, which can impede effective communication and lead to misinterpretations of nuanced concepts. Cognitive processes such as lexical access and semantic retrieval are pivotal in this context, as students often struggle to access appropriate words in the target language, primarily due to interference from their native language and a superficial understanding of vocabulary.

The implications for translation education and practice are significant. Translation educators need to prioritize the learner development of deeper conceptual understanding of over-reliance on surface-level translations. Instructional strategies should focus on enhancing students' knowledge of semantic fields, contextualized vocabulary learning, and the cognitive processes involved in translation. Encouraging students to critically analyse source texts will better prepare them to navigate semantic ambiguities and make informed choices of vocabulary to achieve translation accuracy and quality.

However, this study does have limitations, including its focus on a specific student population and a limited range of texts, which may not fully capture the complexities of translation across diverse contexts. Additionally, the preliminary design does not allow for quantitative analysis, which could provide more robust data on vocabulary usage and translation strategies.

To address these gaps, future research should incorporate quantitative methods to enhance understanding of the interplay between vocabulary knowledge and translation practice. Expanding the research design to include a broader range of linguistic and cultural contexts will help to examine how different backgrounds influence vocabulary selection and applications of translation strategies. Longitudinal studies could also be beneficial in investigating how vocabulary processing skills develop over time and their impact on translation proficiency.

In conclusion, this study underscores the significance of developing a comprehensive understanding of vocabulary in translation, moving beyond literal translations to embrace the complexities of bilingual processing. The insights gained from this research contribute to the broader field of translation studies and vocabulary acquisition, emphasizing the need for more effective translation training methods that foster deep conceptual understanding among learners.

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