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Multi-dimensional Semantic Profiles in L2 Spatial Preposition Usage: A Comparable Corpus-based Analysis of Chinese EFL Learners and Native English Speakers

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Abstract: *English prepositions, characterized by high frequency, semantic diversity, and complex usage, exhibit collocational behavior and semantic features that reliably reflect lexical collocational competence for both native speakers and EFL learners. Within the co-selection framework, this study explores the collocational behaviors and semantic features of the pattern PREP+NP (specifically UNDER, ON, and OVER) in Chinese learner English and native English, based on a contrastive corpus analysis of CLEC and FLOB/FROWN. The results indicate that compared with native speakers, the spatial prepositions used by Chinese EFL learners also exhibit their specific semantic features, which are closely associated with the specific semantic preference and semantic prosody of the given pattern used by them. However, the patterns employed by learners tend to show considerable difference from native speakers in terms of distribution, semantic preference and semantic prosody. Chinese EFL learners tend to use patterns with similar literal meanings interchangeably, these typical patterns are co-defined by grammatical features, semantic preference and semantic prosody.*

Keywords: *co-selection theory, prepositions, Chinese EFL learners, semantic preference, semantic prosody*

1. Introduction

Prepositions are a perennial source of difficulty particularly for those whose first languages are typologically distant from English, and second language (L2) learners struggle with English prepositions (Larsen-Freeman & Celce-Murcia, 2016; Carr & Rieker, 2026)[1][2]. Xu (2019) found that prepositional errors (misuse, omission and redundancy) make up 9% of all writing errors: 5% for misuse, 2% for omission, and 2% for redundancy [3]. Billingfors (2024) found that a total of 649 prepositions were identified in the 24 texts from the Swedish Learner English Corpus (SLEC), of which 72 (11.09%) were used incorrectly, with the most frequent errors involving *of, for, in, to,* and *with*[4].

Based on prior research, Carr and Rieker (2026)[2] outlined the reasons for the difficulty that EFL learners encounter in acquiring prepositions, which include using first language (L1) translations to understand prepositions in the L2 (Johansson Falck, 2015; Mueller, 2011)[5][6]; interpreting spatial terms through target-language conceptual frameworks (Munnich & Landau 2010)[7]; cross-linguistic discrepancies in the conceptualization of space and time (Buescher & Strauss 2015)[8]; and polysemy of prepositions.

As mentioned above, Learners and teachers of English as a second language have long recognized spatial prepositions as one of the most difficult aspects of the language to master (Tyler2003:234)[9]. For example, a pair of English spatial prepositions *under* and *below* used in expressing temperature, learners may wonder why *below* 20 degrees is acceptable instead of *under* 20 degrees. This is probably attributable not only to their limited ability to distinguish the semantic features of spatial prepositions but also to their insufficient awareness of collocational patterns, both of which deserve the attention of teachers and researchers. Accordingly, that is why this study is motivated to investigate the patterns and the semantic features of spatial prepositions as they are learned and used by EFL learners, from a collocational perspective.

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2. Theoretical foundation

Co-selection Theory is the most important theoretical perspective and methodological framework for phraseology within the paradigm of corpus linguistics. The ideas of co-selection initially originated from Sinclair(1991)[10] and further elaborated by subsequent corpus linguists (Wei, 2012; Stubbs, 2009)[11][12]. In the framework of Co-selection Theory, collocation refers to the co-selection between lexical items, namely the node words and their co-ocurred collocates; colligation indicates the co-selection of lexis and grammar, or the lexico-grammatical relationship between a node and the structures it typically selects. Semantic preference refers to the co-selection between a node word and a restricted set of lexical items that share a particular semantic feature, while within the co-selection framework, semantic prosody reveals the interconnected interplay between lexis, grammar and the pragmatic function of attitude or evaluation. (Sinclair, 1996)[13]. According to co-selection theory, linguistic items are not selected independently in isolation; instead, describable co-selection relations exist between lexis and lexis, lexis and grammar, patterns and meanings and patterns and pragmatic functions. (Wei,2012)[11].

The complexity and diversity demonstrated by prepositional collocations and semantic features present an inseparably close link to the context in which they are involved. Learners must match prepositions with compatible nouns/verbs (lexical co-selection), observe their inherent colligational patterns (grammatical co-selection), and conform to unified semantic prosodies associated with spatial contexts, the use of prepositions can reflect lexical collocational competence of native English speakers and EFL learners to a great extent. Therefore, Co-selection Theory lays a highly appropriate analytical foundation for the present research. It facilitates systematic corpus-based contrasts between native English and Chinese learner English, which effectively identifies learners' typical deviations in collocation, colligation and semantic preference in their use of spatial prepositions.

3. Methodology

3.1. Research Questions

The present study aims to explore the patterns and semantic features of spatial prepositions in Chinese learner English, focusing on their collocational behavior, colligation, semantic preference, and semantic prosody. The research questions are as follows:

RQ1: Under the theoretical framework of co-selection, what semantic features do spatial prepositions exhibit in native English?

RQ2: How does Chinese learner English differ from native English in the semantic features of spatial prepositions?

RQ3: What potential factors can account for the distinctive semantic patterns observed among Chinese EFL learners?

3.2. Research Subjects and Instruments

The corpora involved in the present investigation are Chinese Learner English Corpus (CLEC, Gui & Yang 2002)[14], Freiburg-LOB Corpus of British English (FLOB) and Freiburg-Brown Corpus of American English (FROWN) (Hundt et al.1998, 1999)[15] [16]. Both FLOB and FROWN consist of 500 samples from 15 genres and can be well used as the samples of native English. WordSmith 4.0 is used for extracting and analyzing concordance lines.

The present study investigates the collocational behavior, colligation, semantic preference, and semantic prosody of spatial prepositions in Chinese learner English through a detailed analysis of the lexical behavior of three target spatial prepositions *UNDER*, *ON* and *OVER.* These prepositions are chosen primarily for the following reasons: First, all of them occur highly frequently in both native English and EFL learner English, they may well represent the typical use of prepositions in both native English and learner English. Second, all these prepositions are complex in terms of colligations and semantic features, and can well serve the purpose of exploring the patterns specific to the spatial prepositions in Chinese EFL learner English. Third, Chinese EFL learners tend to use the prepositions frequently but still have much difficulty in achieving proper use of them. The investigation will help gain deeper insight into the factors responsible for EFL learners' idiosyncratic use of prepositions.

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3.3. Research Procedure

The procedure consists of the following parts: data extraction and data analysis. Data extraction aimed to retrieve some relevant concordance lines and collocational data for the target spatial prepositions. Data analysis examined the retrieved data in terms of collocational behavior, colligation, semantic preference, and semantic prosody within the framework of co-selection theory.

3.3.1. Data Extraction

First, the concordance lines of the node words *UNDER*, *ON* and *OVER* were extracted from both FLOB/FROWN and CLEC by using software WordSmith 4.0 as a retrieving tool. Although the software was powerful enough to display all the concordance lines of node words, there was a limitation which should never be neglected. That is, the total number of the concordance lines is very large and we could not afford to observe all of them. In addition, some of patterns may not meet requirement of the present study, and therefore must be eliminated. In order to overcome these limitations, we employ random sampling and manual checking to extract 300 lines for each target word for further observation.

Second, the lexical behavior of each target word was identified according to their colligation, semantic preference and semantic prosody through the following three steps: i) Categorizing colligations. The colligation of each target word was categorized by the grammatical feature of the NPs immediately following the target preposition; ii) Identifying semantic preference. The semantic preference was primarily identified by the semantic features of the NPs following the target preposition; iii) Identifying semantic prosody. The attitudinal meaning conveyed by the target sequence was identified by observing the whole phrase or linear sequence to find out whether it was intended to express approval, disapproval or neutral attitude. In some concordance lines, the semantic prosody was not clear enough to be identified; an extended context would be traced back to for more detailed analysis. All these features were tagged correspondingly for each line.

3.3.2. Data Analysis

The data analysis involved in the present study consisted of two parts: quantitative analysis and qualitative analysis. The former included the frequency calculation, percentage calculation, and the comparison of frequency and/or percentage. And the latter included the comparison of semantic preference and semantic prosody respectively either between different target words or between different languages.

(1) Frequency calculation. The frequency of each target spatial preposition was calculated separately for the learner corpus (CLEC) and the native corpora (FLOB/FROWN) and the standardized frequency was normalized to ‘per million’ standard. The calculation made it feasible to observe the frequency differences between Chinese EFL learners and native speakers.

Table 1: Distribution of on, over and under in FLOB, FROWN, and CLEC

Node	FLOB/ FROWN	CLEC
ON	14,214	6,488
OVER	2,612	749
UNDER	1,170	298

The distribution of *ON, OVER* and *UNDER* in FLOB, FROWN, and CLEC was reported in Table 1. As shown in Table 1, the three prepositions chosen for the present study all occurred frequently in both native English and EFL learner English. Among the three prepositions under investigation, *ON* exhibits the highest frequency in both corpora, with 14,214 occurrences in FLOB/FROWN and 6,488 in CLEC. By comparison, *UNDER* occurred far less frequently both in native English and EFL learner English. Another interesting finding from the frequency calculation is that both over and under occurred far less frequently in CLEC than in FLOB/FROWN while *ON* occurred equally frequently. The quantitative results indicate that individual prepositions are used with varying frequencies, and that Chinese EFL learners employ them at frequencies distinct from those of native speakers.

(2) Semantic categorization and analysis. The use of target prepositions was first calculated and classified into two semantic categories: metaphorical meaning and literal meaning. Based on two broad semantic categories, further observation and categorizations were made on semantic features.

(3) Semantic preference and prosody analysis. In order to present a more comprehensive picture, both semantic preference and semantic prosody were analyzed. The semantic preference of each target word

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could be achieved by examining the semantic features of collocates immediately following the target preposition, for example animate or inanimate. By comparison, the semantic prosody was much more complex and largely depended on the whole phraseological unit. The relationship between semantic preference and semantic prosody was also an important part of the present study. Finally, the semantic features specific to EFL learner English were identified and the corresponding factors responsible for these features were discussed on the basis of the quantitative and qualitative data obtained in the proceeding procedure.

This study is framed within co-selection theory, which comprises four key components: collocation, colligation, semantic preference, and semantic prosody, namely, co-selection of lexis and lexis, co-selection of lexis and grammar, co-selection of patterns and meanings and co-selection of lexis, grammar and attitudinal pragmatic function. It also elaborates the notion of extended unit of meaning, its components and its methods of analysis, with a focus on semantic preference and semantic prosody as well as their abstractions.

Semantic preference refers to a co-selection of patterns and meanings, Bublitz (1995: 12) points out that different meanings have "different collocational patterns"[17]. Therefore, semantic preference is an abstraction of the semantic features of collocates.

Semantic prosody is an abstraction of communicative function; Sinclair (1996) argues that "semantic prosody is attitudinal", and "on the pragmatic side of the semantics/pragmatics continuum" (Sinclair 1996)[13]. It links word meaning and pragmatic function in order to present an evaluative or attitudinal meaning for a particular pragmatic communicative purpose.

In sum, in the co-selection framework, meaning is realized through multi-word collocational sequences rather than through isolated lexical items. Accordingly, this study is conducted within the Theory of Co-selection, the semantic preference and semantic prosody are the two significant perspectives from which the semantic features of *PREP+NP* are expected to be analyzed and discovered.

4. Results and Discussion

In this section, the semantic features of the target spatial prepositions are discussed by examining the semantic preference and semantic prosody within the pattern of "*PREP+ NP*". The analysis is structured as follows: First, semantic preferences of the selected prepositions are compared between Chinese EFL learners and native speakers. Second, their semantic prosodies are identified and contrasted. Finally, collocational patterns are examined and integrated with the above findings to identify the factors underlying the distinctive use of spatial prepositions in Chinese learner English.

4.1. Semantic Preference of Spatial Prepositions

As shown in Table 1, English spatial prepositions *ON, OVER*, and *UNDER* are all frequently used by both Chinese English learners and English native speakers. Among them, *ON* occurs with the highest frequency while *UNDER* appears with the lowest frequency. There is a general consistency between FLOB and FROWN. However, Chinese EFL learners differ sharply from native speakers in their deployment of OVER and UNDER. The two prepositions show respective frequencies of 749 and 298 occurrences per million words in CLEC, against 1,370 and 621 in FLOB and 1,242 and 549 in FROWN. Based on metaphorical and spatial categorizations, the semantic features of special prepositions will be examined from such perspectives as semantic preference and semantic prosody.

4.1.1. Semantic Preference of UNDER in FLOB/FROWN and CLEC

From the analysis of concordance lines extracted from FLOB/FROWN and CLEC combined with the help of *Collins COBUILD Advanced Dictionary of English* (2009), the semantic preference of *UNDER + NP* can be categorized into the following six types:(1) Being covered or hidden (2) Being affected by (3) Being caused by particular conditions (4) Being regulated or limited by (5) Being guised by a false name or title (6) Being a particular section or part of.

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Table 2: Semantic preference of UNDER within the pattern of UNDER +NP

	Semantic preference	CLEC		FLOB/FROWN	
Literal meaning	some entity or object that tends to cover or hide sth. else	47.6%		21.9%	
Metaphorical meaning	sth. that tends to affect sth. else	52.4%	26.5%	78.1%	28.1%
	sth. that tends to cause sth else to happen or a result/results		18.4%		8.8%
	sth. that tends to regulate or limit sth else		7.5%		26.9%
	sth or sb tends to use a false name or title		0%		5%
	sth tends to be a particular section or part of		0%		9.3%

As shown in Table 2, *UNDER + NP* exhibits both literal and metaphorical semantic preferences in both Chinese learner English and native English.. However, their proportional distributions differ markedly across the two corpora. The semanctic preference of *UNDER* in its literal use accounts for 47.6% in CLEC but only 21.9% in FLOB/FROWN, whereas metaphorical uses show the opposite pattern, comprising 52.4% in CLEC and 78.1% in the native corpora. In terms of metaphorical use, the pattern is only used for expressing the first three sub-categories of metaphorical meaning in Chinese EFL learner English, (namely, the collocates of *UNDER* tends to indicate a semantic preference such as affective force, resultative causation, and regulatory constraint.), accounting for about 26.5%, 18.4% and 7.5% of the time. However, compared with native speakers, Chinese EFL learners seldom or never use the pattern of *UNDER+ NP* to express such meanings as "being guised by a false name or title" or "Being a particular section or part of". This is in sharp contrast to the pattern of native speakers, where *UNDER + NP* is frequently used to express such metaphorical categories as "being affected by", "being caused by", "being regulated or limited by", "being overpowered by", "being guised by a false name or title" or "being a particular section or part of", accounting for about 28.1%, 8.8%, 26.9%, 5% and 9.3% respectively. The examination of the semantic prosody of the pattern might help shed further light on the semantic features of EFL learners' use of the pattern.

Other patterns are analyzed in a similar way. For the sake of writing space, the process of detailed analysis of *ON+NP* and *OVER+NP* are not described here. The semantic preferences and their percentages are reported in Tables 3 and 4 respectively.

4.1.2. Semantic Preference of ON in FLOB/FROWN and CLEC

This section examines the semantic preference of *ON* in both native English (FLOB/FROWN) and Chinese learner English (CLEC). Following the same analytical procedure applied to *UNDER* in the preceding section.

Table 3: Semantic preference of ON within the pattern of ON +NP

	Semantic preference	CLEC		FLOB/FROWN	
Literal meaning	sth that tends to be covered, touched or formed by part of a surface, a direction or a place	28.3%	28.3%	18.9%	18.9%
Metaphorical meaning	sth tends to be supported by sth else	71.7%	5.4%	81.1%	6.1%
	sth tends to be used as a mean or means		5.8%		8.1%
	a day or date		21.5%		17.5%
	sth tends to affect or influence sth else		1.3%		6.1%
	sth or sb related to sth or sb else		19.7%		22.2%

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	sth tends to be possessed by sth or sb else		0%		1.4%
	sth or sb tends to belong to a group		0%		1.4%
	Sth tend to be consumed regularly		0.4%		0.7%
	sth tends to be a basis or a reason for sth else		17.5%		17.6%

As can be observed from Table 3, the *ON + NP* is used both literally and metaphorically by native speakers and Chinese EFL learners. For example, *ON+ NP* is more regularly used by native speakers to express metaphorical meanings as "about something/somebody", "the basis or reason for something", or "to show a day or date", taking up for about 22.2%, 17.6%, 17.5% respectively . By contrast, Chinese EFL learners use the pattern to express metaphorical meanings such as "being supported by", "by means of", "used to show a day or date", "About something/somebody", "The basis or reason for something", accounting for about5.4%, 5.8%, 21.5% and 19.7% of the time. In terms of these semantic features, Chinese learners are very similar to native speakers. However, Chinese EFL learners never use the pattern to express "In the possession of", "Belonging to a group". This may have something to do with semantic prosody which is helpful to be examined in favor of a further understanding for semantic features of the pattern used by Chinese EFL learners.

4.1.3. Semantic Preference of OVER in FLOB/FROWN and CLEC

The same procedure applied to *UNDER* and *ON* is now employed to analyze the semantic preference of *OVER* in native and learner English, based on data from FLOB/FROWN and CLEC.

Table 4: Semantic preference of OVER within the pattern of OVER+NP

	Semantic preference	CLEC		FLOB/FROWN	
Literal meaning	sth tends to be under, across or covered completely by sth else	10.4%	10.4%	32.8%	32.8%
Metaphorical meaning	number, level or age	89.6%	27.1%	67.2%	11.5%
	sth or sb tends to be with importance or quality		4.2%		9.1%
	sb or sth tends to be controlled , influenced or lower in rank		6.2%		3.8%
	sth tends to be a mean, or means		5.2%		2.3%
	sth related to sth else		19.8%		23.7%
	a period of time		27.1%		16.8%

Table 4 shows that, in FLOB/FROWN, the semantic preference of *OVER* within the pattern of *OVER+ NP* can be grouped into the following 7 types: (1) sth tends to be under, across or covered completely by sth else; (2) number, level or age ; (3) sth or sb tends to be with importance or quality; (4) sb or sth tends to be controlled , influenced or lower in rank; (5) sth tends to be a mean, or means; (6) sth related to sth else; and (7) a period of time, accounting for about 32.8%, 11.5%, 9.1%, 3.8%, 2.3%, 23.7%, and 16.8% respectively. Compared with FLOB/FROWN, *OVER+NP* in CLEC has similar semantic preferences but tends to occur more frequently with NPs of Type 2 (number, level or age) and Type 4 (a period of time), accounting for about 27.1% respectively but far less with NPs of type 1 (sth tends to be under, across or covered completely by sth else), accouting for about 10.4%.

The above categorized semantic features show a picture of diverse semantic meanings of *OVER+ NP*, they can be grouped into two types: spatial or literal meanings, and metaphorical meanings.

As shown in Table 4, the metaphorical meaning of *OVER+ NP* is primarily expressed by native speakers in FLOB/FROWN. The metaphorical use is about 67.2% in proportion while literal use takes up about 32.8% by native speakers. By contrast, *OVER + NP* is used to express literal meaning for about 10.4% in Chinese learner English to show a certain spatial relation.

Unlike the semantic features of *UNDER+NP* and *ON+ NP*, it is an interesting phenomenon that Chinese learners are less than native speakers in using literal meanings accounting for 10.4% and 32.8%

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respectively. It may partially prove that Chinese learners master *OVER* better than the other two prepositions *UNDER* and *ON* in terms of semantic acquisition and present a native-like collocational competence in using *OVER.*

4.2. Semantic Prosody of Spatial Prepositions

With the semantic preference of *ON,UNDER* and *OVER* established in the preceding section, this section shifts the analytical focus to their semantic prosody based on concordance lines extracted from FLOB/FROWN and CLEC.

4.2.1. Semantic Prosody of UNDER+NP

Table 5: Semantic Prosody of UNDER+NP in FLOB/FROWN and CLEC

Semantic Feature	Categories of semantic features	Prosody (CLEC)	Prosody (FLOB/FROWN)
Being covered or hidden by or lower than	Literal meaning	neutral/ approval	neutral/approval
Being affected by	Metaphorical meaning	disapproval	approval disapproval
Being caused by	Metaphorical meaning	disapproval	approval disapproval
Being regulated or limited by	Metaphorical meaning	neutral/ approval	strong approval

According to the different categories of semantic features shown in Table 5 and concordance lines *from FLOB/FROWN*, the semantic prosody of *UNDER+NP* can be summarized further as follows:

When *UNDER+NP* is employed to express "Being covered or hidden by or lower than", *UNDER* is mainly followed by such NPs as *10 percent, umbrella, ground* and *moonlight*, no explicit approval or disapproval is conveyed by the pattern. In such cases, *UNDER+NP* tends to express a neutral attitude. For example, *the man was sitting in a chair, under an umbrella, there is much water under the ground* and *under the teaching building, and there is a big umbrella.*

When *UNDER+NP* is used to express "Being affected by", *UNDER* has a strong tendency to follow positive NPs like *her influence, control, the pressure of deep investigation* and *this inspiration.* In such concordance lines as *Under her influence, I became more cheerful, bring the pollution under control, the famous gangs have surrounded to the police under the pressure of deep investigation and we can try …,* an explicit attitude of approval is conveyed, accounting for about 60% of the time. In addition, *UNDER* is also frequently followed by negative NPs like t*he press of the exam, the short-sighted parents and the condition of great suffering,* where *UNDER+NP* tends build a strong disapproval meaning of attitude.

When *UNDER+NP* is employed to express "Being regulated or limited by", *UNDER* is primarily followed by such positive NPs as *party's leading, the policy, following instructions* and *the guidance of legal systems*. They co-occur with *UNDER* and tend to express the attitudinal meaning of a strong approval.

The semantic prosody of *UNDER+NP* in CLEC contrasts sharply with native English. In literal uses, both groups show neutral/positive prosody. In metaphorical uses, learners almost express an attitude of disapproval, whereas native speakers flexibly alternate between approval and disapproval. This pattern, consistent with learners' preference for literal meanings, suggests that their difficulty with metaphorical prepositions is pragmatic as well as lexical—likely due to insufficient contextual input in L2 learning.

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4.2.2. Semantic Prosody of ON +NP

Table 6: Semantic Prosody of ON+NP in FLOB/FROWN and CLEC

Semantic Category	Semantic Prosody	Collocates Classification	FLOB/ FROWN	CLEC
Metaphorical	Approval	development/love/ability/ progress	5.4%	28.3%
	Disapproval	influence/effect/case/condition/problem	33.8%	5.4%
	Neutral	day/date/average/society/basis/ /leave/holiday/means	41.9%	5.8%
Spatial/ Literal	Approval	space/locations	0%	21.5%
	Disapproval		0%	1.3%
	Neutral		18.9%	19.7%

As shown in Table 6, *ON+NP* has the following patterning features**.** In FLOB/FROWN, when NPs carry the information of space or location, the pattern *ON+NP* primarily expresses neutral or approval attitude, accounting for about 18.9% of the lines. By comparison, in CLEC, *ON* has a much stronger tendency to occur with space/locations NPs, accounting for about 42.5%. Further, apart from conveying neutral attitude, the pattern in CLEC also has a strong tendency to express an attitude of approval, accounting for about 21.5%, which is markedly different from native speakers.

In FLOB/FROWN, when *ON+NP* expresses metaphorical meaning, *ON* is frequently followed by such NPs as *influence, effect, case, condition* and *problem*, which primarily builds a semantic prosody of disapproval, accounting for about 33.8% of the lines. Also *ON* is frequently followed by *day, date, average, society, basis, leave, holiday* and *means* and the pattern tends to build a semantic prosody of neutral attitude. However, in CLEC, the pattern shows a marked difference in that *ON* is primarily followed by *development, love, ability* and *progress,* which primarily builds the semantic prosody of approval, accounting for about 28.3% of the lines.

4.2.3 Semantic Prosody of OVER +NP

Table 7: Semantic Prosody of OVER +NP in FLOB/FROWN and CLEC

Semantic Category	Semantic Prosody	Collocates Classification	FLOB/ FROWN	CLEC
Metaphorical	Approval	nature/ disaster/	9.2%	8.3%
	Disapproval	illness/death/problem	7.6%	0%
	Neutral	days/months/years/means/concern/money/price/number /preferring/ influence/	50.4%	81.3%
Spatial/ Literal	Approval		0%	0%
	Disapproval		0%	0%
	Neutral	space/locations	32.8%	10.4%

As shown in Table 7, *OVER+NP* has the following patterning features**.** In FLOB/FROWN, when NPs carry the information of space or location, the pattern *OVER+NP* primarily expresses neutral attitude, accounting for about 32.8% of the lines. By comparison, in CLEC, OVER co-occurs with space/locations NPs for about 10.4% of the lines, building a neutral attitude. Tables 6 and 7 show that, compared with native speakers, Chinese EFL learners tend to overuse *ON*+(space/location)*NP* while underuse *OVER*+(space/location)*NP*.

In FLOB/FROWN, when *OVER+NP* expresses metaphorical meaning, *OVER* is frequently followed by such NPs as *days, months, years, means, concern, money, price, number, preferring* and *influence*, which primarily builds a neural attitude, accounting for about 50.4% of the lines. By comparison, in

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CLEC, the pattern shows much similarity to that in FLOB/FROWN in terms of semantic preference and semantic prosody but a marked difference in percentage, namely accounting for a large proportion.

To sum up, the FLOB/FROWN data shows that English spatial words have their specific semantic features, which are closely associated with their grammatical patterns, semantic preference and semantic prosody. The data shows that, when a spatial preposition is used for expressing literal meaning and metaphorical meaning, it is followed by NPs expressing different meanings or with different semantic features, building different attitudinal meanings. Even for the spatial words sharing similar literal meanings, for example, *ON* and *OVER*, they tend to show much difference in semantic preference and semantic prosody. For the spatial words used by Chinese EFL learners, they also exhibit their specific semantic features, which are closely associated with the specific semantic preference and semantic prosody of the given pattern used by them. However, the patterns employed by learners tend to show considerable difference from native speakers in terms of distribution, semantic preference and semantic prosody. And for the patterns sharing similar literal meaning, for example, *ON*+ (space/location) *NP* and *OVER*+ (space/location) *NP*, EFL learners tend to use them interchangeably.

5. Conclusion

This research studies the collocational behavior and semantic prosody of spatial prepositions based on randomly selected data from corpora CLEC and FLOB/FROWN by a contrastive inter-language analysis between native English and Chinese EFL learners.

The findings of this research suggests that English and Chinese spatial prepositions display both differences and similarities in terms of collocation, semantic preference and semantic prosody. As to semantic categories based on literal and metaphorical meanings, the proportion of metaphorical use covers larger for both EFL learners and speakers. However, the differences do exist in metaphorical meanings between Chinese EFL learners and native speakers.

The patterns employed by learners tend to show considerable difference from native speakers in terms of distribution, semantic preference and semantic prosody. And for the patterns sharing similar literal meaning, for example, *ON*+ (space/location) *NP* and *OVER*+ (space/location) *NP*, EFL learners tend to use them interchangeably. From the perspective of co-selection theory, it suggests that the co-selection patterns of spatial prepositions in Chinese learner English deviate from native usage in terms of collocation, colligation, semantic preference, and semantic prosody. Their interchangeable use of near-synonymous prepositions in literal contexts indicates insufficient knowledge of collocational preferences, while their rigid prosodic choices in metaphorical contexts reflect a lack of sensitivity to pragmatic values in co-selection.

The semantic features of lexical items are largely defined by their typical patterns which are co-defined by grammatical features, semantic preference and semantic prosody. The same goes for functional words like spatial prepositions. Chinese EFL learners generally lack full mastery of the co-selection patterns of English spatial prepositions and tend to rely on the pattern conventions of their Chinese translational equivalents. Apart from intrinsic linguistic properties of prepositional items, cross-linguistic transfer may constitute another key factor to some extent; Chinese EFL learners differ sharply from English native speakers in the semantic features of spatial prepositions, but very consistent with that of their L1 Chinese. Thus, the study exposes L1-influenced co-selection patterns of spatial prepositions in Chinese Learners' English, the primary subject of this corpus inquiry.

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