

Article

An Investigation of English-Speaking Students' Acquisition of Chinese Complements: From a Cognitive Linguistic Perspective

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Abstract

In the practice of teaching Chinese as a foreign language to English-speaking learners, the Chinese verb-complement structure is an important yet challenging linguistic form. As one of the basic Chinese syntactic constructions, the verb-complement structure, on the one hand, is widely used in written and spoken Mandarin Chinese; on the other hand, it is relatively complex, including different types, and has no equivalent in English. Adopting a cognitive linguistic perspective to investigate second language (L2) learners' application of Chinese verb-complement structures, this study examines 280 extracts of Chinese journals (free writing) composed by a group of lower-intermediate level L1 English students. Through analyzing factors impacting on L2 learners' usage of Chinese verb-complement structures, such as the type of complements, the position of complements, formal markers, this study finds that the difficulty of each category of Chinese complements varies; primarily, syntactic complexity as well as conceptual differences in event description between Chinese and English are the main causes of learners' errors. Based on these findings, this study provides pedagogical implications for teaching and learning Chinese as a foreign/second language.

Keywords

Chinese verb-complement structure, cognitive linguistic perspective, error analysis

1. Introduction

The verb-complement structure is a primary syntactic construction in Chinese and has drawn a broad range of interest from the fields of Chinese grammar research and teaching Chinese as a second or foreign language (e.g. [Chatsaran, 2022](#); [Shicun, 2021](#); [Lü, 1995, 2001](#); [Peng and Peng, 2021](#); [Wu, 2011](#); [Zhong and Wang, 2015](#)). As a syntactic pattern, the verb-complement structure is treated as a phrase in Mandarin Chinese ([Lü, 2001](#)). In this structure, the “verb” refers to general verbs and adjectives functioning as verbs; the “complement” can be a single word, a phrase or even

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a clause, and it is always placed after the verb or adjective for explication or comment purposes (Lü, 1995). This article attempts to study Chinese complements from the perspective of cognitive linguistics, which emphasizes that language use is grounded in our experience and perception of the physical world (Ellis, 1999; Slobin, 1993, 1996; Wang, 2001). Briefly speaking, language, particularly its grammatical structure, is based on cognition and driven by meaning and function (Jiang, 2009). The Chinese verb-complement structure is an embodiment of Chinese native speakers' conceptualization of a motion event from the temporal and spatial dimensions. The linear sequence from "verb" to "complement" reflects people's cognition of the temporal sequence of an event; namely, an act or movement encoded in the verb part occurs first, and then a particular phenomenon encoded in the complement part, such as the result or state of that movement, ensues. Moreover, the verb-complement structure is a major device to signify the path of a motion event in Chinese (Shen, 2003; Talmy, 2000), particularly the complement of direction, which is a typical expression of Chinese speakers' spatial conceptualization (Wu, 2011). The proximity between "verb" and "complement" indicates the connection between the two concepts in people's cognitive space. That is, when the entities represented by the "verb" and "complement" have closer conceptual relations in the human mind, these two linguistic elements are placed closer to each other in the syntactic pattern. Overall, the temporal-spatial concept contained in the Chinese verb-complement structure implies the iconicity between the syntactic structure and human cognition. Iconicity refers to the correspondence between a linguistic form and its meaning; Chinese is a language that strictly follows the iconicity principles in cognitive linguistics (Jiang, 2009).

The complexity of the verb-complement structure not only consists in the various types of complements, word order between the complement and the object, but also collocation between the verb and complement, semantic orientation of the complement, etc. In contrast, the complement in English is mainly used to complement the subject or object, instead of the verb. The function of complements in Chinese is usually played by adverbials in English, so English-speaking students who learn Chinese as a second or foreign language (L2/FL) may tend to confuse adverbials with complements. Given the importance and difficulty of Chinese verb-complement structure, a wealth of research on how L2 learners come to acquire Chinese complements has been done from a grammatical dimension (e.g. Shicun, 2021; Jing, 1993; Lü, 1995, 2001; Zhong and Wang, 2015). Nevertheless, a grammatical perspective primarily concentrates on the superficial syntactic features, whereas a cognitive approach is more helpful in examining the inherent rules of Chinese verb-complement structures, and can thus facilitate the practice of teaching and learning Chinese as an L2 or foreign language. Although an increasing number of researchers have begun to investigate L2 learners' acquisition of this construction from the cognitive linguistic perspective (e.g. Wang, 2004; Wang and Peng, 2018; Wu, 2011), most research attention has been paid to some particular types of complement, such as complements of direction and state. The present study expands this line of research by exploring English-speaking learners' practical use of different types of Chinese verb-complement structures. Both the correct and incorrect usages are analyzed, with L2 errors being the focus of discussion and addressed from the perspective of cognitive linguistics. Three research questions are proposed as follows:

- (1) What kinds of Chinese complements do L2 learners use in their free writing and what is the frequency of usage?
- (2) Which complements are less challenging and which complements are more problematic? And what types of errors do L2 learners make?
- (3) What are the possible causes for learners' errors?

2. Literature Review

This section first presents the theoretical motivation adopted for understanding Chinese verb-complement structure, then discusses its categories, and finally introduces existing research on L2 learners' acquisition of this structure.

2.1 Understanding the verb-complement structure from a cognitive linguistic perspective

Cognitive linguistics advocates that language use should be understood through underlying mental process and conceptualization of the physical world. A particular linguistic structure is connected with a particular perception of a situation (Lee, 2001). According to Shi (2003), in Chinese verb-complement structure, when the entities represented respectively by the verb and complement are more closely associated in perception, these two linguistic elements are more closely placed in syntactic word order. This claim corresponds to one of the three core principles of iconicity in cognitive linguistics, namely, the proximity principle, which suggests that linguistic distance is generally a reflex of conceptual distance (Haiman, 1985). For example, in the verb-complement structures of “去了北京三次” (*qu le bei jing san ci*, went *le* Beijing three times, traveled to Beijing three times) and “去了三次北京” (*qu le san ci bei jing*, went *le* three times Beijing, traveled to Beijing three times), the underlined complement of quantity “三次” (three times) is placed after the object “北京” (Beijing) in the first phrase but before “北京” in the second. When the destination (i.e. the object “北京”) has a closer association with the movement (i.e. the verb “去” [went]) in the speaker's mind, the first type of expression is produced. By comparison, when the frequency (i.e. the complement of quantity “三次”) has a closer association with the movement in the speaker's mind, the second type of expression is employed. Moreover, the particle of tense “了” (*le*) is immediately put after the verb “去” instead of at the end of the phrase in both examples, indicating that the past tense loaded in “了” has a closer conceptual proximity with the verb “去” than the concepts of destination and frequency loaded in “北京” and “三次”.

The second key principle of iconicity is the quantity principle, meaning that syntactic complexity tends to match with conceptual complexity (Haiman, 1980). For instance, the verb-complement structures of “睡得很沉” (*shui de hen chen*, sleep *de* very heavy, be fast sleep) and “睡得打雷都叫不醒” (*shui de da lei dou jiao bu xing*, sleep *de* thunder even call not awake, sleep like a log so that even the thunder cannot awaken him/her) are close in meaning, yet the previous structure has a simpler complement of state (“很沉” [soundly]) than the latter (“打雷都叫不醒” [cannot be awakened even by the thunder]). A more sophisticated form in speech reflects that people have a more sophisticated perception of a given situation.

The third element is the sequential order principle, indicating that the order of linguistic elements tends to mirror the temporal order of an event in the conceptual world (Givón, 1991). This principle is consistent with the principle of temporal sequence (PTS) proposed by Tai in 1985. As a significant rule that governs Chinese word order, the PTS suggests that the sequence of two linguistic units relies on the temporal order of the states they represent in perception (Tai, 1985). For instance, in the verb-complement structure of “高兴得手舞足蹈” (*gao xing de shou wu zu dao*, happy *de* hands dance feet stamp, dance with excitement), the situation encoded in the verb “高兴” (feel happy) occurs first, and then it is followed by a state of “手舞足蹈” (wave one's arms and stamp one's feet).

Chinese relies on conceptual principles, partly because it lacks overt syntactic features (Shen, 1993). Moreover, as speakers of different languages pay attention to different aspects or details of a given situation, they may create particular speech forms to verbalize their perception (Slobin, 1996; Wu, 2011). Therefore, Chinese verb-complement structure can be challenging for English-speaking learners because it has no syntactic equivalent in English and features different conceptual or semantic categorization. If we can provide a clear cognitive explanation of Chinese verb-complement structure, specifically its

iconic or temporal-spatial features, we may help L2 learners understand the operating mechanism behind the superficial syntactic forms and thus facilitate their grasp of the grammatical rules.

2.2 Categorization of Chinese complements and relevant L2 acquisition studies

It has been widely acknowledged that the verb-complement structure is an important and complex part in Chinese grammar due to its high frequency of usage and diverse forms and meanings (Liu et al., 2001; Lü, 1995, 2001; Yang, 2020). There has been disagreement over the categorization of Chinese verb-complement structure.

Referring to the varying categorizations of Chinese complements discussed in the current literature, this research adopts the breakdown of complements proposed by Liu et al. (2001), i.e., complements of result, direction, potentiality, state, degree, quantity and prepositional phrase, because this classification, based on both structure and meaning, is specific and clear enough to cover all the generally used Chinese complements.

A growing number of empirical studies have been carried out to investigate L2 learners' acquisition of Chinese complements, with some concerning pedagogical implications, some involving the acquisition process, some concentrating on L2 errors.

Adopting a cognitive linguistic framework, Wu (2011) investigated how L2 Chinese learners learn to use directional complements in a target-like way. Wu utilized a controlled composition task and a picture-cued written task to measure learners' success of acquiring Chinese directional complements. Wu concluded that for English-speaking learners, the difficulties mainly lie in the syntactic complexity of Chinese directional complements and the typological features of Chinese as a serial-verb language. Wu's study not only proposed a developmental sequence of acquiring Chinese directional complements but also revealed sources of challenges in students' adjustment to Chinese thinking-for-speaking pattern. Wu pointed out that the differences and similarities between Chinese and English typology and semantics of spatial categorization seemed to be the main difficulty for L2 learners; yet, how the similarities hamper students' acquisition has not been clarified. Targeting intermediate-level students, Zhong and Wang (2015) collected L2 Chinese learners' compositions and compared their frequency of using Chinese complements with that of native speakers. Zhong and Wang found that the former's usage was much lower than the latter. They ranked students' use of Chinese complements in an ascending order of difficulty, from complements of degree to complements of potentiality, complements of prepositional phrase/result/quantity, complements of state and complements of direction. Moreover, they examined the arrangement of complements in four Chinese textbooks and suggested that both the difficulty and frequency of usage should be considered when designing the sequence of teaching Chinese complements.

Most of the studies in this area focus on one particular type, especially complements of direction and state, with few covering all the types of Chinese complements. In addition, extant empirical research mainly analyzes L2 Chinese learners' usage of complements from the syntactic aspect. This study aims to expand the current line of research by exploring L2 learners' application of seven types of Chinese complements (i.e., complements of result, state, degree, quantity, potentiality, direction, and prepositional phrase) from the syntactic, semantic and pragmatic dimensions.

3. Research Methodology

This part discusses the research methods employed, and how data was collected and analyzed.

3.1 Error analysis

A linguistic error is defined as a mistake that breaches the norm of the language (Ringbom, 1987). Proposed by Corder (1971), Error Analysis aims to compare L2 learners' errors with their target

language, instead of comparing the native language with the target language. As a significant approach to '[gain] a better understanding of the processes underlying L2-learning' (Ringbom, 1987, pp.69-71), Error Analysis can help researchers discover the regular patterns of learners' errors, including the error types and reasons. Apart from employing Error Analysis to explore L2 errors, this study also examines students' correct usage to gain a clearer picture of their current competence in applying Chinese complements.

3.2 Participants and data collection

The 83 participants involved in this study are English learners of Chinese. They are categorized as lower-intermediate learners based on the time and experience of their Chinese learning. With their consent, 280 untimed free journal entries from their homework were used as the research data. The journals are about their life and study, and each is of approximately 600 characters.

3.3 Data analysis

The present study combines the quantitative and qualitative methods to analyze students' application of Chinese complements. When counting students' frequency of using each type of Chinese complement, both correct use and incorrect use were analyzed; then as a separate category - overuse and underuse. To illustrate, overuse refers to cases where a complement was not an ideal choice, but students still employed one; underuse refers to cases where a complement was preferred but students did not adopt one. In order not to complicate the data presentation, students' overuse and underuse are not included in the wrong usage nor the overall usage statistics but treated as an independent case and discussed in a separate study. In addition, a qualitative analysis was employed to categorize L2 learners' incorrect usage and to explore potential reasons for error patterns.

Students' incorrect use was further split into syntactic errors, semantic errors and pragmatic errors as proposed in Hu (1994). Syntactic errors are equal to grammatical errors, including lack of formal marker “得”, wrong position of the complement, incorrect pattern of the verb-complement structure, wrong tense of the verb, etc. Semantic errors refer to failure to convey the accurate meaning. In other words, students have adopted a grammatically proper verb-complement structure, but the phrasing of it is unable to deliver the exact meaning in that particular context. Pragmatic errors involve improper or unnatural collocations that are inconsistent with Chinese conventions. When identifying the semantic and pragmatic errors, two large-scale Chinese corpora (the CCL corpus and the BCC corpus) were consulted for reference.

The two Chinese native-speaker researchers worked independently to code all the writings. After comparing coding results, the two researchers discussed disagreements and negotiated solutions to ensure coding reliability; any remaining differences were resolved through discussions with another colleague, to ensure 100% agreement.

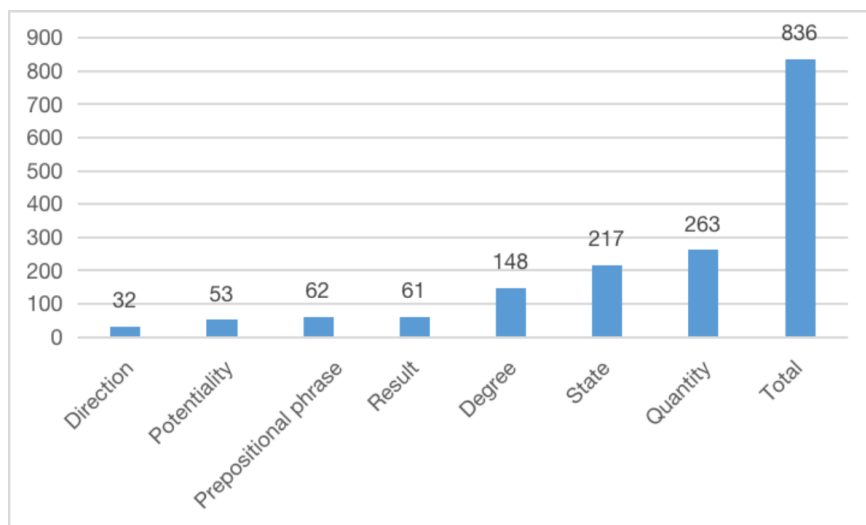
4. Research Findings

We start by presenting the types and frequencies of Chinese complements used and amount/types of errors.

4.1 Overall usage of Chinese complements

Out of the 280 pieces of Chinese journals (around 168000 characters), a total of 836 usages of complements were identified, including both correct and incorrect use. Figure 1 displays participants' overall use of the seven types of Chinese verb-complement structures. To save space, each type of complement is abbreviated to its last one to two words and the sequencing is from low to high.

Figure 1

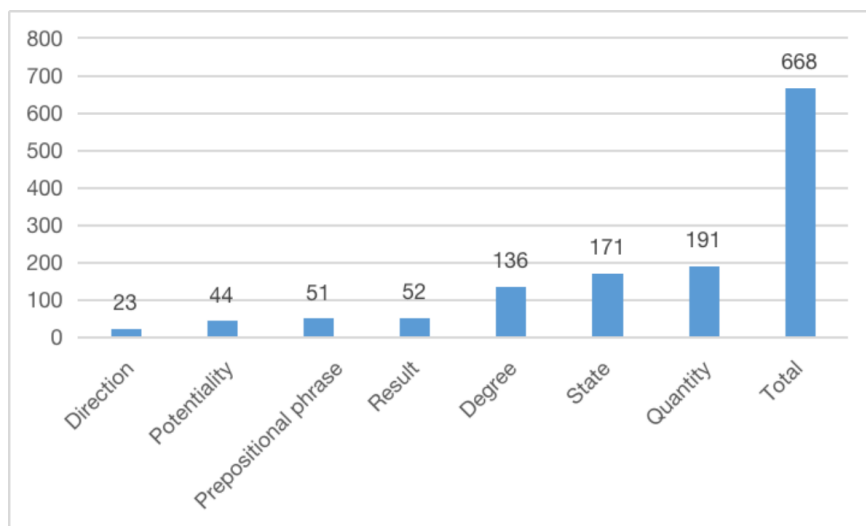
Overall Usage of Chinese Complements

According to Figure 1, all the seven types of complements occurred in students' writings, though their frequencies varied. Complements of quantity saw the highest frequency of usage, followed by complements of state and degree. By contrast, the other four types, complements of result, prepositional phrase, potentiality, and direction occurred much less frequently.

4.2 Correct usage of Chinese complements

The figure below presents L2 learners' correct usage of Chinese verb-complement structures by types.

Figure 2

Correct Usage of Chinese Complements

In total, there were 668 correct usages of Chinese complements, accounting for the majority of the total usage, and the frequency of correct use observed a similar trend as the overall situation. Some examples are provided in Table 1 to illustrate students' correct application of each type of complement.

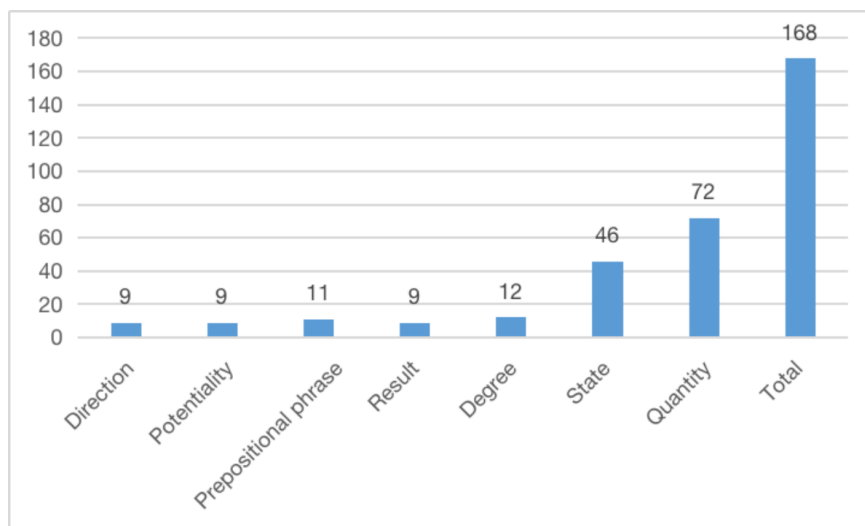
Table 1
Examples of Correct Usage

Type	Example
Quantity (191)	我搬了三次家。(wo ban le san ci jia, 'I moved le three ci home', I moved house three times.)
State (171)	火车开得很快。(huo che kai de hen kuai, 'train drives de very fast', The train goes very fast.)
Degree (136)	天气真的冷死了。(tian qi zhen de leng si le, 'weather really cold dead le', It's freezing.)
Result (52)	街上挤满了人。(jie shang ji man le ren, 'street up crowded le people', The streets were overcrowded.)
Prepositional phrase (51)	我每天呆在家里。(wo mei tian dai zai jia li, 'I everyday stay at home', I stay at home every day.)
Potentiality (44)	这里买得到很多别的国家的菜。(zhe li mai de dao hen duo bie de guo jia de cai, 'here buy de dao a lot of other de country de vegetables', We can shop for food from various countries here.)
Direction (23)	我们走进一家泰国饭店。(wo men zou jin yi jia tai guo fan dian, 'we walk into a Thai restaurant', We walked into a Thai restaurant.)

4.3 Wrong usage of Chinese complements

Turning to the incorrect usage of each complement type, the pattern of frequency differed from results shown above.

Figure 3
Wrong Usage of Chinese Complements



According to Figure 3, complement of quantity saw the largest number of errors (72), followed by complement of state (46). There was little difference between complements of degree (12) and prepositional phrase (11), and complements of direction, result and potentiality shared the same quantity of wrong usage (9).

As students might adopt one type of complement more frequently than the others, therefore a larger number of errors did not necessarily denote a higher degree of difficulty. Table 2 below illustrates the error percentage and overall usage frequency of each complement so as to offer a clearer picture of students' problems of applying Chinese verb-complement structures.

Table 2
Error Percentage of Chinese Complements

Type of complements	Number of errors	Number of total usage	Percentage of errors	Percentage of usage
Direction	9	32	28.13%	3.83%
Quantity	72	263	27.38%	31.46%
State	46	217	21.2%	25.96%
Prepositional phrase	11	62	17.74%	7.42%
Potentiality	9	53	16.98%	6.34%
Result	9	61	14.75%	7.3%
Degree	12	148	8.11%	17.7%

According to Table 2, complement of direction accounted for the highest error percentage 28.13%, although it was the least used type (32 out of the total 836 complements used – 3.83%). Complement of quantity had the second largest error percentage 27.38%, and it was the most frequently used one (263 out of the total 836 complements – 31.46%). The third highest error percentage 21.2% fell on complement of state, whose usage rate ranked second. In contrast, complement of degree saw the lowest error percentage 8.11%, although its overall use rate ranked third.

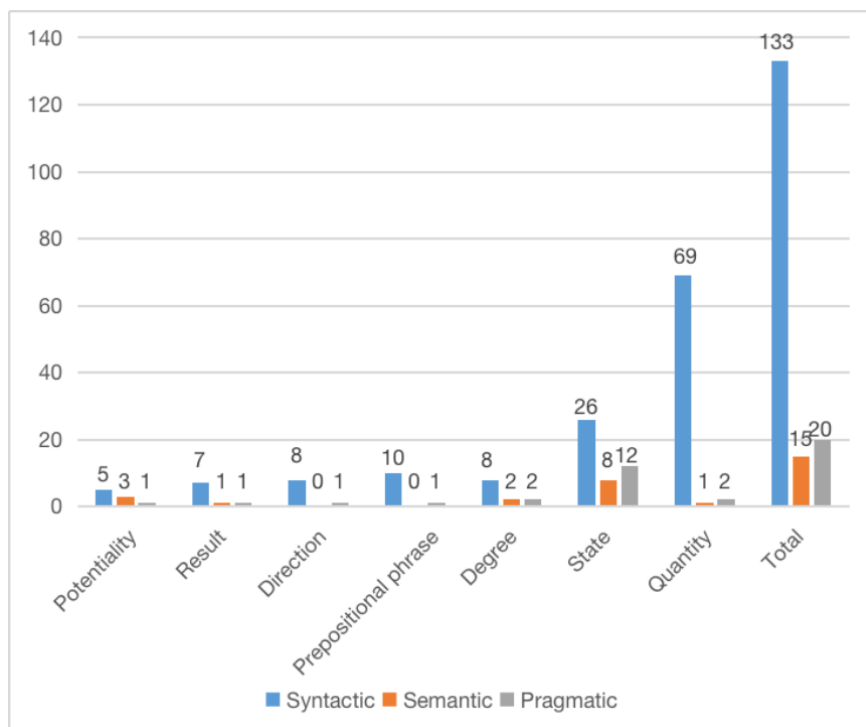
Table 3 displays examples of students' misuse of each type, and a corrected version is provided for reference.

Table 3
Examples of Incorrect Usage

Type	Example
Quantity (72)	* 我们一起旅行了两个星期的菲律宾。 我们一起在菲律宾旅行了两个星期。(<i>wo men yi qi zai fei lü bin lü xing le liang ge xing qi</i> , 'we together in Philippines travelled le two ge weeks', We travelled in the Philippines for two weeks together.)
State (46)	* 我认为爸爸抽烟得太多了。 我认为爸爸抽烟抽得太多了。(<i>wo ren wei ba ba chou yan chou de tai duo le</i> , 'I think dad smokes de too much le', I think my dad smokes too much.)
Degree (12)	* 他心情不好得不得了。 他心情糟糕得不得了。(<i>ta xin qing zao gao de bu de liao</i> , 'his mind poor de terribly', He feels really bad.)
Prepositional phrase (11)	* 我和家庭住在一起在家里。 我和家人一起住在家里。(<i>wo he jia ren yi qi zhu zai jia li</i> , 'I and family together live at home', I stayed at home with my family.)
Direction (9)	* 七月租期到了, 我得离宿舍开。 七月租期到了, 我得离开宿舍。(<i>qi yue zu qi dao le, wo dei li kai su she</i> , 'July tenancy arrived le, I have to leave dormitory open', The lease is due in July, so I have to leave the dormitory.)
Result (9)	* 我洗脏衣服干净。 我把脏衣服洗干净。(<i>wo ba zang yi fu xi gan jing</i> , 'I ba dirty clothes wash clean', I washed the dirty clothes clean.)
Potentiality (9)	* 所以什么我都不学会。 所以我什么都学不会。(<i>suo yi wo shen me dou xue bu hui</i> , 'so I what all learn not can', So I can't learn anything.)

Analysis of students' erroneous use revealed that some errors were against grammatical rules or patterns while others did not conform to the context or convention. The number of L2 learners' syntactic, semantic and pragmatic errors are demonstrated in Figure 4.

Figure 4

Syntactic, Semantic and Pragmatic Errors

Based on Figure 4, it is obvious that syntactic errors dominated students' wrong usage of verb-complement structures while semantic errors did not necessarily occur in each type.

Complement of state witnessed more semantic and pragmatic errors than others. Although the basic form of this structure is not very complex (i.e. verb + “得” (*de*) + adjective or adjective phrase/verb or verbal phrase), some participants had problems with choosing the appropriate adjective/adjective phrase as the complement or even with deciding the proper head verb. As a result, they produced structures that do not cohere with the context or convention, such as **“出生率变得越来越小”* and **“他受伤得有点严重”*, which should be *“出生率变得越来越低”* (*chu sheng lü bian de yue lai yue di*, ‘birth rate becomes de more and more low’, the birth rate is getting lower and lower) and *“他伤得有点严重”* (*ta shang de you dian yan zhong*, ‘he injured de a bit serious’, he is somewhat badly injured). For the former example, although *“变得越来越小”* (becoming smaller and smaller) is a correct verb-complement structure suggesting state, the complement *“越来越小”* does not go well with the subject *“出生率”* (birth rate) of the sentence. Regarding the latter example, native speakers always use the plain verb *“伤”* (injure) instead of the verb-object form *“受伤”* (get an injury) to take a complement of state.

In addition, when the complement of state is preceded by an object, namely the verb part being a verb-object word or phrase, usually the correct pattern is to repeat the verb after the verb-object word/phrase and then employ the complement. Yet, some L2 learners kept using the basic form and thus made syntactic errors (refer to the example concerning complement of state in Table 3).

Complements of quantity, degree, result and potentiality also involve both semantic and pragmatic errors, arising from participants' inappropriate phrasing concerning the verb or complement, and misplacing the negative word. As for complements of prepositional phrase and direction, their pragmatic errors are mainly caused by students' improper use of the verb.

For complement of degree, students mainly utilized it to describe their feelings and opinions, with “极了” (*ji le*, extremely), “不得了” (*bu de liao*, extremely), “很” (*hen*, very), “多” (*duo*, more), “死了” (*si le*, extremely), and “没话说” (*mei hua shuo*, very) being the regularly used words/phrases to suggest a strong degree. As the syntactic structure of complement of degree is not complex, or in other words, it involves no objects after the verb, students made relatively fewer mistakes in this type. The main problems rest with the lack of “得” (*de*) and “了” (*le*) and improper phrasing of the verb or complement. Influence from participants’ L1 English does not appear to be the main reason here. Rather, the complexity around the correct usage of “了” (*le*), and also learners’ incomplete grasp of semantic collocations in these structures seem to have been the basis for the syntactic, semantic and pragmatic errors.

5. Discussion

The table below compares the results of this study (findings from Figure 1) with Zhong and Wang’s (2015) study, which compared intermediate-level students and Chinese native speakers’ frequency of using Chinese complements.

Table 4

Comparison between Zhong and Wang’s and the Present Study

Group	Frequency of Using Chinese Complements
The present study	Direction < Potentiality < Prepositional Phrase < Result < Degree < State < Quantity
Learners of Chinese Zhong and Wang (2015)	Degree < Prepositional Phrase < Quantity < Potentiality < State < Direction < Result
Chinese native speakers Zhong and Wang (2015)	Degree < State < Potentiality < Quantity < Prepositional Phrase < Result < Direction * Chinese native speakers’ frequencies of use are sourced from two Chinese novels.

Eliciting data from intermediate-level students’ writings, Zhong and Wang (2015) have got results different from the present study. This might be due to participants’ different language background and writing topics. Comparing native speakers with participants of this study, the biggest difference lies in their frequency of using complements of direction, which is the most frequently used type by the former but the least used by the latter. It seems that participants of this study were not very confident in applying complements of direction and therefore they may have attempted to avoid using them. Nevertheless, they tended to use complements of quantity and state more frequently. An important fact is that students’ journals primarily narrated their study and travelling experience, thus involving many descriptions of the duration of their stay in or the frequency of their travelling to a place.

Findings from Table 2 indicate that complements of direction tended to be the most difficult type for students while complements of degree seemed to be the easiest, and complements of quantity and state were the most frequently used types. In general, complements of direction, prepositional phrase, potentiality, and result featured the same pattern; namely, their error percentages were higher than their usage frequencies, suggesting that although these four types of complements did not occur in participants’ writing frequently, they were still problematic for students. By contrast, complements of quantity, state and degree observed the opposite trend: their error percentages were lower than their usage

frequencies. As these three types of complements were more frequently used than the other four types, their errors thus outnumbered the other four accordingly; nevertheless, they are not necessarily more challenging.

Regarding complements of direction, out of the 23 correct occurrences, most of the verb-complement structures comprise no objects, taking the pattern of verb + compound directional complements; only eight structures consist of objects, with all the complements being simple directional complements. Among the nine wrong usages, all involve the wrong word order between the complement and the object, whether it's simple or compound directional complements. As Wu (2011) put it, the syntactic complexity of Chinese directional complements lies in the dual functions of Chinese directional verbs as both full verbs and complements, the number of constituents and relevant word order rules. Moreover, the differences in the conceptualization of motion events and spatial semantics between Chinese and English make it hard for English-speaking learners to acquire Chinese directional complements. To illustrate, when describing the situation "a kid enters the room", usually English just encodes the "path" of the motion event, i.e. using the verb "enter" or a verbal phrase like "walk into"; in comparison, Chinese speakers tend to have a more specific spatial conception and may use a compound directional complement to depict both the path and direction of the movement, i.e. "一个小孩走进屋来", with "进" (*jin*) indicating the path "into somewhere" and "来" (*lai*) suggesting the direction "toward the speaker". Considering the syntactic complexity and semantic diversity of Chinese directional complements as well as the conceptual differences between Chinese and English, it is not surprising that the lower-intermediate-level participants did not actively apply verb-complement structures of direction, particularly those involving objects, and frequently made L2 errors.

In contrast, students were particularly active in using complements of quantity. Out of the 191 correct occurrences of complements of quantity, duration-related complements accounted for 141, frequency-related complements accounted for 50, while there was no occurrence of nominal-measure-related (i.e. comparative quantity) complements. Given that all the data were elicited from students' journals, which primarily recorded their experience of living, studying and travelling abroad or at home, it is understandable that students employed plenty of complements of quantity to describe the events or activities they had experienced. The absence of complements of comparative quantity might be associated with the specific writing content, or possibly, students' lack of knowledge of this subtype. However, students' application of complements of quantity involves many errors meanwhile. The commonest type of errors takes the form of verb + object (general items) + complement of quantity, which is against the rule of positioning the object (referring to general things) after the complement of quantity (Zhang, 2010). Taking "上课两三次" (*shang ke liang san ci*, 'have lessons two three times') as an example, the frequency-related complement "两三次" (two or three times) should be positioned before the object "课" (lesson). This arrangement can find explanation in the proximity principle of iconicity. As the complement of quantity is used to explicate the frequency of the verb, namely the information encoded in these two parts are more closely associated in perception, the complement thus should immediately follow the verb. In short, L1 transfer and the syntactic complexity of complement of quantity seem to be the main reasons for students' errors in this type.

As the second most used type, complements of state reflects the diversity of L2 learners' interlanguage system as students employed various adjectives, adjective phrases, verbal phrases and clauses as complements to describe the head verb. Though the basic form of complements of state is not complex, the existence of the object can complicate the picture. For instance, some students directly placed the complement of state after the verb-object phrase, with or without "得" (*de*) in the middle, such as "起床得很早" (*qi chuang de hen zao*, 'get up *de* very early') and "起床很晚" (*qi chuang hen wan*, get up very late). The proper expressions can be "起床起得很早" (get up very early) and "起床起得很晚" (get up very late). As discussed before, the complement and the verb are tightly interrelated in cognition, so they are placed closely in syntax. Apart from the syntactic errors, there are also a relatively large number of semantic and pragmatic errors, caused by students' improper wording of the

complements and/or the verbs. L1 transfer and students' insufficient grasp of form-function equivalence seem to be the primary factors for these errors.

The error percentages and usage frequencies relating to complements of prepositional phrase, potentiality and result do not vary a lot. For complements of prepositional phrase, the majority of errors arise from the lack of or fragmentary object, redundant or missing preposition, misplacing the adverbial directly after or before the complement and improper wording of the verb. Regarding complements of potentiality, erroneous usages comprise lack of “得” (*de*), wrong position of the negation word, inaccurate wording of the verb and complement and redundant “了” (*le*) after the complement. Concerning complements of result, errors mainly include redundant “了” (*le*), incorrect positioning of the object and phrasing of the verb.

Among the correct usages of these three types of complements, when the verb part involves an object, most students correctly placed the complement before the object. It seems that L2 learners associate complements of prepositional phrase, potentiality and result more closely with the verb than other complements in their perception, so they tend to put these three complements immediately after the verb, making fewer word order errors concerning complements and objects. The major error causes include learners' inadequate grasp of the syntactic form as well as the meaning of particular words.

As the easiest type, complements of degree witnessed L2 learners' confidence and competence in L2 output. The syntactic form is not difficult for students, but failing to master the specific meaning and conventional usage has led to semantic and pragmatic errors, for example, “放心了一下” (*fang xin le yi xia*, ‘set mind *le* a bit’) and “不好得不得了” (*bu hao de bu de liao*, ‘not good *de* extremely’), which should be “放心了一点” (*fang xin le yi dian*, ‘set mind *le* a bit’, feel relieved a bit) and “糟糕得不得了” (*zao gao de bu de liao*, ‘bad *de* extremely’, extremely bad).

On the whole, the seven types of complements are characterized by varying degrees of difficulty, and the challenges seem to lie most in syntactic complexity (i.e. the constituents, types and word order). Difficulty also arises from semantic variety (i.e. Chinese complements can suggest degree, quantity, state, direction, etc. and can refer to the head verb, subject or object), and conceptual spatial/temporal differences between Chinese and English. Some errors resulted from students' overgeneralization of the usage of certain words/phrases or grammatical rules, L1 transfer, misunderstanding the meaning or function of particular words/phrases, and neglect of the context. Some errors may be a mix of syntactic, semantic and pragmatic problems. Although L2 learners have learned the basic forms of Chinese verb-complement structures, the implicit tense and context should also be taken into consideration to deliver the exact meaning.

6. Conclusion

To sum up, the syntactic, semantic and pragmatic errors identified in the current research reflect L2 learners' problems with and solutions to using Chinese verb-complement structures. Clearly, it is important for L2 learners to learn both the forms and functions of Chinese complements, and take the context or discourse into consideration. Pedagogical approaches can therefore be adapted to include such direction.

6.1 Pedagogical implications

The results of this study show that English-speaking learners at lower-intermediate level have learned the basic forms of all the seven types of Chinese complements and have applied each type in their Chinese L2 writing. Grounded on the empirically examined patterns of L2 learners' application of all seven types of complements, the frequency of usage follows the ascending pattern of complements of direction, potentiality, result, prepositional phrase, degree, state and quantity; moreover, the possible hierarchy of

difficulty is proposed: complements of degree, result, potentiality, prepositional phrase, state, quantity and direction (in an ascending order).

Students show more confidence in utilizing complements of quantity and state, which is possibly linked to the subject matter and type of their L2 writing. Specifically, students' Chinese journals are narrative stories about their travelling, studying and living abroad or at home. In contrast, students' application of complement of direction is far less (but with a higher error rate), which might be due to the syntactic complexity of directional complement and L1-L2 differences in conceptualizing motion events (Wu, 2010). Furthermore, according to Zhong and Wang (2015), this type of complement is the most frequently used one by Chinese native speakers. Considering the degree of difficulty and high frequency of use by native speakers, in the next stage of learning, i.e., the upper-intermediate or advanced level, teachers should give prominence to structures with higher error percentage, such as complements of direction and quantity.

Analysis on students' misuse of complements finds that apart from syntactic patterns, students also have difficulty in deciding the right word/phrase as the complement or even the verb, thereby producing unnatural collocations and context-improper meaning. Hence, when interpreting students' application of complements, attention should be paid not only to L2 learners' grammatical errors, but also the semantic and pragmatic problems. In other words, it is important for instructors to help L2 learners acquire the syntactic forms of each type of Chinese complements, and connect the usage of complement with its meaning in the sentence. Although lower-intermediate students have learned the basic forms of all types of complements, they may have no clear idea about the specific functions of each verb-complement structure. Therefore, when they step into the upper-intermediate level, teaching focus should be put on the meaning and function of complements in sentences so as to help learners choose the proper word/phrase as complement and reduce non-target-like expressions. Meanwhile, verb-complement structures with more complex forms can be introduced to students in detail, especially structures involving objects. To help students gain comprehensible input, various context-based examples, drills and tasks are desirable. Moreover, the functional differences between Chinese adverbials and complements and the underlying cognitive differences between Chinese and English should be compared and clarified to facilitate students' understanding of Chinese complements' usage.

6.2 Limitations and suggestions for future research

There are three principal limitations with the study which future research could address. The present study elicited data from L2 learners' narrative writings, which mainly depicted students' experiences of living, studying and travelling abroad or at home. The certain subject and genre may have impact on students' wording and construction of sentences. Therefore, future research may consider collecting data of other genres or writing styles, such as persuasive and expository writings or even oral data, to verify whether genres and subject matters can influence students' application of complements.

In addition, this study has proposed a hierarchy of difficulty based on the error percentage. This sequence sketches the hypothetical development paths for students' acquisition of Chinese complements. Yet, students may prefer to use certain types of complements while avoiding using other types and their linguistic competence to apply each type of Chinese complements is likely to change when they enter a higher level of study. Hence, it would be beneficial for researchers to carry out longitudinal research to observe L2 learners' acquisition process and interlanguage development.

Last but not the least, existing studies on L2 learners' acquisition of Chinese complements mainly concentrate on students' grammatical errors, while students' semantic and pragmatic problems have not received sufficient attention. Furthermore, researchers have conducted many investigations into L2 learners' acquisition of a certain type of complement, with complement of direction drawing the most research interest. Hence, more studies on L2 learners' acquisition of all kinds of Chinese complements are needed. In addition, a cognitive-function perspective can be adopted to facilitate teaching and

analysis of L2 learners' complement-related errors; learners can also learn and use complements more accurately and efficiently when they understand the cognitive differences between L1 and L2.

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从认知语言学视角看汉语中低级水平学习者对中文动补结构的习得

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摘要

动补结构作为汉语的一项基本句法结构, 在汉语书面语和口语中被广泛使用, 同时其类型多样, 意义丰富, 在英语中没有对应的结构。因而, 在英语母语学生学习中文的过程当中, 动补结构是一项十分重要且颇具难度的语言形式。本研究对一组以英语为母语、汉语处于中低水平的学生所撰写的 280 篇中文日志 (自由写作) 进行了分析, 从认知语言学的角度考察二语学习者对汉语动补结构的使用。研究通过分析影响二语学习者使用中文动补结构的因素, 如补语类型、补语位置、形式标记等, 发现中文各类补语的习得难度存在差异。句法结构的复杂性以及中英文在事件描述上的认知差异是学习者产生错误的主要原因。基于语法、语义、语用三方面的数据分析, 本研究期望为汉语作为外语 / 第二语言的教学活动提供教学启示。

关键词

中文动补结构, 认知语言学视角, 偏误分析

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