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FIRST LANGUAGE TRANSFER IN CHINESE UNDERGRADUATES' USE OF CONNECTORS IN ENGLISH NARRATIVES

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ABSTRACT

Background and Purpose: Connectors are vital tools for cohesive discourse, significantly influencing the writing proficiency of learners. In Chinese educational contexts, many learners grapple with the correct application of connectors, due to potential first language (L1) influence. Previous research primarily delves into lexical and syntactic aspects, overlooking discourse-level considerations. This study aims to assess the frequency and accuracy of connector usage in English narratives among Chinese learners. It also seeks to investigate the extent of language transfer concerning connectors among Chinese learners and discern how this transfer evolves as learners' second language (L2) proficiency advances.

Methodology: This study employed a sequential exploratory mixed-methods design to analyze 150 English narratives written by 30 Chinese undergraduate English majors over two years. Data were collected through picture-elicited narrative writing tasks and retrospective journals, followed by qualitative coding of connector types using Halliday and Hasan's (1976) scheme and grammatical

tagging. The qualitative analysis was complemented by quantitative frequency analysis to assess the accuracy, frequency, and patterns of first language transfer in connector usage.

Findings: The findings underscore temporal words as the most frequently employed connectors, closely trailed by additives and causal words. Notably, temporal words and adversatives exhibited higher accuracy when compared to other connector types. Positive transfer manifested more frequently than negative transfer. Moreover, positive transfer displayed a noticeable inflectional change across the five-time narratives, whereas little variation was observed in negative transfer.

Contributions: This study suggests that stakeholders, including educators, learners, and policymakers, should leverage positive transfer as a strategic resource when instructing connectors to enhance L2 writing proficiency.

Keywords: First language, language transfer, connector, narratives, Chinese undergraduates.

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1.0 INTRODUCTION

The importance of English as a globally spoken language cannot be overstated (Bolton & Graddol, 2012; Graddol, 2006). In the context of China, English proficiency holds even greater significance (Bolton & Graddol, 2012; Hu, 2005). It is common for students in China to commence their English language education in the third grade of elementary school, with the subject remaining mandatory from middle school through college (Wei & Su, 2012). However, it is noteworthy that English is taught as a foreign language in China, limiting its practical application to the confines of the classroom (Wang & Gao, 2008). Numerous studies have indicated that Chinese students exhibit subpar performance in tasks that require producing

language output, such as writing, compared to tasks that primarily involve language input, such as reading (Liu & Braine, 2005). This disparity is further evident in the analysis of International English Language Testing System (IELTS) scores, which revealed that Chinese students tend to struggle with the English writing component when compared to their counterparts from other countries (Yao, 2014). As a result, it becomes imperative to prioritize enhancing their composition skills.

It is widely acknowledged that using connectors is an effective way to enhance second language (L2) writing proficiency (Crossley et al., 2007). Halliday and Hasan (1976) argued in their seminal work *Cohesion in English* that cohesion and coherence are integral to discourse, and connectors play a crucial role in articulating and establishing coherence (Hu, 1994). Furthermore, former research has demonstrated a positive correlation between accurate connector usage and the quality of learners' writing, serving as an indicator of their level of target language acquisition (Ghasemi, 2013; Deng, 2006; Witte & Faigley, 1981).

Numerous studies have highlighted that English as a foreign language (EFL) learners often struggle with properly grasping and applying connectors, resulting in errors such as overuse, underuse, and incorrect usage. Many researchers attribute these errors to first language transfer(Al-Khresheh, 2011; Granger & Tyson, 1996). However, despite the wealth of research emphasizing the investigation of discourse transfer through linguistic correlates, further studies are needed to explore this phenomenon within the Chinese context.

This study aims to examine the utilization of four types of connectors (additives, adversatives, temporal connectors, and causal connectors) and their relationship with first language transfer among Chinese undergraduate students. Specifically, it focuses on analyzing the use of connectors in English narrative texts written by Chinese learners, assessing whether and how Chinese connectors influence their usage of English connectors, and providing practical implications for effectively employing connectors to improve EFL writing proficiency.

2.0 LITERATURE REVIEW

The present analysis focused on discourse connectors, crucial in establishing sentence relationships (Ghasemi, 2013; Deng, 2006; Witte & Faigley, 1981). These connectors encompass various linguistic elements such as connectives, linking adverbs, phrases, and connecting pronouns, all of which serve a semantic function by connecting clauses (Halliday & Hasan, 1976). Functionally, English connectors can be categorized into several types, including continuous, cause-and-effect, transitive, and conditional connectors. According to Halliday and Hasan's (1976) seminal work, discourse connections refer to the linking relationship between consecutive sentences or sentence groups. Using connective words, one can grasp the semantic linkages between sentences and even predict the logical implications of subsequent sentences based on preceding ones. In light of Halliday and Hasan's definition and classification, this study investigated the utilization of connective words in narrative writing among Chinese college students.

Halliday and Hasan (1976) examined inter-sentential connections comprehensively, delineating them into four primary types: additive, adversative, causal, and temporal, each comprising numerous subcategories. The additive category signifies a situation where the language user appends a second scenario after completing or stating the initial sentence. As illustrated by the statement, "*I could tell you something about beautiful women now. And it wasn't all make up either*." the speaker introduces the aspect of "*beautiful women*" and augments it with the qualifier "*not nonsense*". Additive semantic relations encompass expressions of complementarity, selection, resemblance, and contrast.

In contrast, the adversative category embodies semantic relationships that deviate from the anticipated norm. For instance, in the sentence, "*I told him years ago. But he won't listen*." the latter sentence negates the semantics conveyed in the former sentence. The causal category pertains to semantic connections establishing a cause-and-effect relationship. Consider the example, "*He fell off the pier because he was drunk.*" where the first sentence denotes the outcome, while the second sentence functions as the cause linked by the coordinating conjunction "*because*".

Lastly, the temporal category refers to the temporal sequence preceding and following the occurrence of an event, indicating the chronological order of two events leading up to the procedure. For example, in the statement, "*The weather cleared just as the party approached the summit. Until then, they had seen nothing of the panorama around them*.", the phrase "*until then*" signifies the temporal connection between the two events.

Overall, Halliday and Hasan's (1976) categorization of inter-sentential connections offers valuable insights into the intricate nature of discourse cohesion, encompassing diverse semantic relationships within and between sentences. However, this paper employs the tetrahedral classification scheme despite Halliday and Hasan's (1989) trichotomy proposal (Halliday & Hasan, 1989). This decision is motivated by two primary reasons. Firstly, Halliday and Hasan's (1976) tetrad framework concentrates on inter-sentential connections, reducing them to four core types: additive, adversative, causal, and temporal, each of which can be further subdivided. Secondly, this research specifically examines discourse connectors within the context of a corpus comprising narrative writing produced by learners in response to visual stimuli. This contextualized approach allows for a more comprehensive analysis with a stronger semantic basis, addressing the limitations associated with Halliday and Hasan's (1989) classification, which has been deemed cumbersome and less suitable for such specific categorization (Halliday & Hasan, 1989).

2.1 Language Transfer Theory

In the realm of second language acquisition, the investigation of language transfer has remained a central focus for a considerable period. The origins of language transfer research can be traced back to the 1960s, commencing with the inception of contrastive analysis theory and evolving into the error analysis theory in the 1970s, driven by the concepts of Universal Grammar. Subsequently, during the 1980s, a proliferation of various transfer theories emerged. Ellis highlights the complexity of language transfer as a phenomenon and the ambiguity surrounding its definition, which has contributed to diverse conclusions in language transfer research (Ellis, 2008). Therefore, it becomes imperative to establish a clear definition of transfer and an

accepted theoretical framework for its analysis.

The examination of language transfer necessitates language comparison. This study employs Cai's comparative induction paradigm to investigate the prevalence of language transfer (Cai, 2015). This paradigm outlines the essential conditions for identifying instances of language transfer, consisting of the individual and the group levels, each comprising three distinct steps. Cai's comparison-induction paradigm, proposed in 2015 and further developed in 2016 (Cai & Li, 2016), is utilized to evaluate L1 transfer,

As proposed by Cai (2015), the comparison-induction framework serves as the foundation for evaluating L1 transfer, encompassing two distinct levels: the individual and the group. At the individual level, three key steps are undertaken. Firstly, Cross-Linguistic Congruity entails determining if an EFL learner's interlanguage feature is influenced by their first language. Positive transfer is observed when the EFL learner's interlanguage feature resembles the corresponding L1 feature. In contrast, negative transfer emerges when disparities exist between the interlanguage feature and the target language. In this context, "congruent" signifies likeness in form or meaning. Cai and Li (2016) further delineated negative transfer into two types: intrusive transfer, arising from dissimilarities between the first language and the target language, and inhibitive transfer, resulting from the absence of a feature in the first language compared to the target language. Secondly, Within-Learners Comparison entails analyzing or comparing L1 transfer occurrences in different aspects of an individual EFL learner's interlanguage. This may involve examining positive or negative transfers within the same interlanguage feature at different instances or types, or investigating L1 transfer across various interlanguage features within the same learner. Thirdly, Between-Learners Comparison compares L1 transfer within the same interlanguage feature across EFL learners. This comparison encompasses assessing positive or negative transfer and exploring diverse instances or types of L1 transfer within the same interlanguage feature across distinct learners.

Moving to the group level, three crucial steps are pursued. Firstly, Cross-Language Probabilistic Congruity builds upon the cross-language congruity analyzed at the individual level, aiming to establish the ratio of L1 transfer at the group level through descriptive statistical

analysis. This enables the determination of mean ratios and standard deviations for each L1 transfer type. Secondly, Intra-Group Comparison involves comparing various aspects within the same group synchronically or diachronically. Furthermore, this step facilitates the investigation of changing patterns of L1 transfer within the group based on prior analyses. Lastly, Inter-Group Comparison encompasses comparing L1 transfer within the same interlanguage feature across different groups, either synchronically or diachronically. Through the systematic and rigorous application of this comparison-induction paradigm, a comprehensive understanding of L1 transfer can be achieved, yielding valuable insights into the complexities of second language acquisition.

The comparison-induction paradigm not only facilitates the assessment of individual variations but also allows for the aggregation of characteristics observed among a group of students. As a result, both group similarities and individual differences can be simultaneously observed, reducing the risk of overlooking existing transfer occurrences. This coherent and systematic structure serves as the theoretical framework for the current research.

In conclusion, language transfer is a prominent study area in second language learning. Due to the complexity of the phenomenon and the absence of a universally accepted definition, research in this field has yielded diverse findings. A comprehensive paradigm proposed by Cai (2015) is adopted to investigate the incidence of language transfer. This framework accounts for individual variations and ensures the coherent observation of group characteristics and individual differences. Through the application of this theoretical framework, the present study aims to shed light on the intricate aspects of language transfer within the context of English as a foreign language acquisition.

2.2 Connectors and Language Transfer

Several studies aimed to examine the existence of L1 transfer by analyzing the usage of connectors (Altenberg & Tapper, 2014; Granger & Tyson, 1996), while others sought to understand the role of L1 transfer in the use of cohesion devices. (Al-Khresheh, 2011; Mohan & Lo, 1985; Zufferey et al., 2015).

Granger and Tyson (1996) adopted a corpus-based approach to investigate French EFL learners' use of connectors and whether it was influenced by L1 transfer. They compared the frequency of connectors in academic papers (89,918 words) from the ICLE-French and English native corpora (77,723 words). The connectors were categorized according to Quirk et al.'s classification, and 108 connectors were selected for analysis (Quirk et al., 2010). The results showed that French EFL learners tended to overuse additive and underuse adversative connectors, indicating the impact of L1 transfer.

Similarly, Al-Khresheh (2011) found that Jordanian English learners exhibited a high error rate when using the coordinate connector "*and*". Referring to previous studies, he hypothesized that this error might be caused by L1 transfer. Subsequently, Zufferey et al. (2015) explored the role of L1 transfer in discourse conjunction comprehension. They conducted a study involving 32 Dutch EFL learners, 21 French EFL learners, and 43 native English speakers. The results revealed that EFL learners did not significantly differ from native speakers in recognizing correctly used connectors. However, their recognition time was significantly higher than that of native speakers when identifying connector errors, highlighting the strong correlation between mother tongue transfer and misused connectors.

However, some studies found no evidence of native language transfer. For instance, Altenberg and Tapper analyzed the use of adverbial connectors in advanced Swedish learners' written English to investigate the influence of L1 transfer (Altenberg & Tapper, 2014). By comparing the general use of adverbial connectors in these learners' writing to that of native Swedish and English speakers in the ICLE corpus, they concluded that Swedish learners tended to underuse conjuncts, but there was little indication of L1 influence on their use of connectors.

Previous studies on this subject have some limitations, indicating the need for further research. Firstly, most studies are descriptive and provide varying conclusions regarding the frequency and usage of connectors among EFL learners of different L1 backgrounds. Some studies report overuse (Chen, 2006; Field & Oi, 1992; Milton & Tsang, 1993), while others find underuse of connectors (Bolton & Graddol, 2012; Lin, 2004).

Secondly, some research studies examine connector usage or comprehension in the

context of L1 transfer but reach contradictory conclusions through corpus methodology or experimental studies. Some studies assert that L1 transfer is the main reason for EFL learners' overuse/underuse of connectors (Mohan & Lo, 1985; Granger & Tyson, 1996), while others claim that L1 transfer plays a minor role in influencing EFL learners' connectors usage or comprehension (Altenberg & Tapper, 2014). Therefore, further empirical studies are necessary to ascertain the true role of L1 transfer in connector usage.

Finally, most existing studies are synchronic and rely on ready-made corpora instead of longitudinal data. Additionally, they lack corresponding first language data, which would provide a better understanding of EFL learners' thought processes. Furthermore, while many corpus-based studies focus on academic papers (Mohan & Lo, 1985; Altenberg & Tapper, 2014; Chen, 2006), few explore narratives (Milton & Tsang, 1993). Pavlenko has highlighted narratives as valuable data for studying language transfer, making them advantageous for this research compared to other genres (Pavlenko, 2008). Therefore, this study aims to address these gaps by adopting Halliday and Hasan's (1976) classification of connectors to analyze connector usage among Chinese undergraduates. Furthermore, a comparison-induction paradigm explores traces of first-language transfer among Chinese learners (see Cai & Li, 2016).

Based on the former research, this study investigated L1 transfer in Chinese learners' use of connectors in written English narratives. Besides, the changing rules of L1 transfer were also explored. The specific research questions are:

1. What is the frequency of connectors in Chinese undergraduates' English narratives?
2. What is the accuracy of connectors in Chinese undergraduates' English narratives?
3. How does L1 influence Chinese undergraduates' use of connectors?
4. How is L1 transfer changes with the improvement of L2 proficiency?

3.0 RESEARCH DESIGN

3.1 Research Approach

This study employed a mixed-methods research approach to gain a comprehensive

understanding of Chinese undergraduates' use of connectors in narrative writings. Specifically, the sequential exploratory research design was employed, commencing with a qualitative analysis of the narrative writings, followed by a quantitative analysis of frequency. Research data were collected through writing prompts and learners' reflective journals.

3.2 Participants

The participants in this study comprised thirty English majors from a prestigious Chinese university. These participants, aged between 17 and 22, were all native Chinese speakers with at least ten years of English learning experience. English majors were chosen as research subjects due to their presumed high level of English proficiency. Moreover, in Chinese universities, English majors are enrolled in corresponding English courses, and their proficiency is expected to improve each semester.

3.3 Research Instruments and Data Collection

The students were initially presented with a picture series portraying a story to elicit their writing. During the writing course, students were required to compose narratives of at least 150 words within a 30-minute timeframe, describing their perceptions and emotions evoked by the pictures. Subsequently, after completing the English narrative writing, the students were instructed to maintain a retrospective journal in Chinese, wherein they recorded their thoughts during the writing process. This journal served as a means to evaluate the students' writing processes and decision-making rationale.

To investigate the evolving patterns of first language transfer, data were collected longitudinally over two years, at the end of each semester. Collecting 150 English and Chinese stories from thirty students across four terms enabled the establishment of the students' corpus, followed by coding connectors. The total corpus includes 33,885 English samples and 51,483 Chinese samples.

After data collection, a qualitative analysis was conducted. To address the research questions, connector types were classified according to Halliday and Hasan's (1976) scheme. Additionally, the usage of connectors was tagged based on grammatical principles (Alexander,

1988; Hornby et al., 2005; Quirk & Crystal, 2010). Subsequently, the type of language transfer observed was coded using Cai's (2015) comparison induction paradigm. The qualitative analysis enables the determination of the frequency, accuracy, and categories of first language transfer, which serves as the basis for the ensuing quantitative analysis in line with the research questions.

4.0 ANALYSIS AND DISCUSSION

A detailed analysis of the results is presented in the following sections to answer the research questions.

4.1 Frequency of Connectors

To answer Research Question 1, the use of connectors was analyzed. The prevalence of each type of connector in the learners' corpus is extracted, and the frequency of each category is presented in Table 1.

Table 1: An account of connector frequency in five times

Category of connectors	**Frequency and Ratio of frequency (%)**				
	1	2	3	4	5
Additives	53(18)	52(24)	42(23)	21(14)	26(18)
Adversatives	73(24)	57(27)	52(29)	61(42)	32(23)
Causal	76(26)	34(16)	36(16)	30(25)	28(20)
Temporal	97(32)	69(33)	58(32)	27(19)	56(39)
Total	299(100%)	212(100%)	182(100%)	145(100%)	142(100%)

Table 1 shows that temporal connectors (19%-39%) and adversatives (23%-42%) are found to be more prevalent in the five writing tests compared to additives (14%-26%) and causal

connectors (16%-25%). Notably, the ratio of additive frequency increases in the second and fifth tests but decreases in the third and fourth tests. The ratio of adversative frequency, on the other hand, increases in the first four tests, reaching its peak in the fourth test, and then decreases in the fifth test. As for causal frequency, it increases in the fourth test, remains unchanged in the third test, and decreases in the second and fifth tests.

To better analyze the use of connectors, some examples of connectors are shown. Firstly, Chinese undergraduates use temporal connectors and adversatives to a large extent as shown in Table 1. For example, in one student's narrative, he wrote "*One day of last week, it was time for Tom to go to the school. But he pretended to be ill when his father came into his room*." In this sentence, the adversative "*But*" and temporal word "*when*" were used to express a reversal of meaning and indication of time. The frequency of connectors was counted, and it was found that Chinese students use temporal and adversatives more often compared to other categories.

In addition, it was found that Chinese undergraduates use additives and causal connectors to a lesser extent. For example, one student wrote in his narrative that "*The father allowed him not go to class, what's more, he even met the requirement that putting Tom's bed in the air with a loose*." In this sentence, the phrase "*what's more*" indicates an addition to the aforementioned meaning. Hence, it was regarded as an additive. In another sentence, the student wrote " *In addition, while returning from the job, his father walked into Tom's room with a cup of tea in his hand immediately. Because he wanted to see him better*." In this sentence, an additive "*in addition*" was presented to indicate an additional meaning. Besides, in the end, the connector "*because*" was used to express the reason for the action, which is considered a causal connector. By accounting for the frequency of connectors, it was found that Chinese undergraduates adopted causal and additives less.

These results diverge from previous research regarding connector usage frequency. In contrast to native English, Narita, Sato, and Sugiura found that Japanese learners tended to use excessive additives and causal words while using fewer contrastive connectors (Narita et al., 2004). However, this study reveals that causal transitional terms are infrequently used in connector usage, whereas temporal words are predominant. It is essential to acknowledge that

different languages can influence learners' worldviews and information organization systems (Wang, 2019). The findings of this investigation also differ from those of Zufferey et al. (2015), indicating that the adoption of target language connectors might depend on the learning context (Zhang, 2018). According to Wang, the actual input and immediate output environment of the target language context can provide social and emotional support, fostering learners' awareness of form-function matching, communicative goals, and construction-situation interaction (Wang, 2015). Additionally, it is worth noting that Dutch and Chinese English dialects exhibit differences, and Chinese students use connectors less frequently due to a lack of exposure to a foreign language learning environment.

4.2 Accuracy of Connectors

To answer Research Question 2, the accuracy of connectors was coded according to the coding scheme. The accuracy of connectors in the five times' narrative writings is shown in Table 2.

Table 2: Accuracy of connectors in five tests

Category of connectors	**Frequency of correctly used connectors and accuracy (%)**				
	First test	Second test	Third test	Fourth test	Fifth test
Additives	51(96.23)	43(82.69)	36(85.71)	19(90.48)	19(73.08)
Adversative	66(90.41)	55(96.49)	49(94.23)	57(93.44)	31(96.88)
Causal	60(78.95)	29(85.29)	24(66.67)	29(96.67)	22(78.57)
Temporal	89(91.75)	66(95.65)	55(94.83)	26(96.30)	52(92.86)

Table 2 shows that most connectors have an accuracy between 80% and 90%, indicating that subjects can master the majority of connectors. Specifically, the accuracy of each of the four types of connectors varies as follows: The accuracy of adversatives and temporal was higher

than others, all above 90%, and little change was observed in the five times testing; the accuracy of causal words increased in the second and fourth tests and becoming dramatically hitched in the third and fifth tests.

The accuracy of temporal words and adversatives was higher compared with other categories. For example, in one sentence by student sg02, he wrote, "*He pretended to be ill when his father came into his room*." In this sentence, the temporal word "*when*" is correctly used, which is ahead of the subject, connecting the clause, expressing the sequence of the acts in English, which is similar to Chinese "*dang...shi (when/while)*". In another example where adversative is correctly used by another student, sg05, in the sentence "*However, he did a wrong thing that he cheated his lovely father*." In this sentence, the student used the adversative "*however*" correctly. It is used to describe the adverse meaning of the sentence.

In the country, the accuracy of additives and causal words is lower compared to other categories. An example is shown in a sentence by one student: "*From the second picture, we can seen the father begun book after his son carefully, the boy drunk tea in bed comfortable*." In this sentence, it can be seen that additives are lacking. In English grammar, sentences and clauses should be connected by connectors, but in Chinese, connectors are not frequently used, especially additives. Therefore, students tend to forget to use additives when writing in English.

The same condition applies to the use of causal words by Chinese students. A student wrote "*He had been tricked. He commanded the boy went to school just now.*" In Chinese, causal relations can be expressed through the sequence of sentences (Zhao, 1981). However, a connector is required to express the relationship between sentences in English. Hence, in this example, the error is caused by the underuse of a causal word.

To conclude, among Chinese undergraduates, the accuracy of temporal and adversatives was higher than that of additives and causal words in their English narratives. This finding goes against Lin (2004). He (2004) found that Chinese EFL learners make more "*although*" and "*but*" errors, and that the accuracy of connectors increases with language proficiency. Different results are attributable to the study approach, subject knowledge, and teaching methods. In this study, the participants are English major students with high English proficiency. In other words,

they have been taught the differences between English and Chinese and practised many times compared with normal English learners. Therefore, English major students are aware of the grammatical rules of English and have fewer errors in adversatives.

It can be concluded that Chinese college students employ temporal and contrastive correlative terms more accurately. The functions and positions of English and Chinese temporal correlatives and contrastives are identical. English and Chinese connectors typically appear before the subject and link phrases or paragraphs (Zhao, 1981; Zhu et al., 2001). For example, the English temporal word "*when*" is placed before the subject, inheriting the semantics and expressing time, like the Chinese "*dang...shi(when/while)*"; the English temporal word "*then*" is at the beginning of the sentence, before the subject, like the Chinese "*jiezhe/ranhou(then/ after that)*." Nevertheless, Chinese and English contrastives differ in pairing and singular usage (Huang, 1997; Zhang & Chen, 1981), such as "*although*," and "*but*". In Chinese, "*suiran(although/though)*" and "*danshi(but)*" are used in the same sentence to express a reverse of the meaning. However, in English, the grammar doesn't allow them to occur simultaneously. Nevertheless, despite such differences in using adversatives, Chinese students are aware of them, and most Chinese undergraduates can avoid such errors. After practice, differences are easier to distinguish. Apart from that, the semantic meanings are similar between Chinese and English to express adverse meanings. For example, "*nevertheless*" and "*although*" are semantically related and straightforward.

Comparing cases from the corpus of student writing revealed that most student errors in using additives and causal words are caused by two important factors: the absence of connectors is the first. The Chinese equivalent of hypotaxis is parataxis. Thus, Chinese clauses are more independent and employ fewer connectors than English clauses (Li & Thompson, 1989; Yuan & Lu, 2011; Zhao, 1981; Zhu et al., 2001). Connectors are uncommon in Chinese sentences, especially additives and causal terms. Repetition of connectors results in another error. For instance, the additive relation of "*what's more*" and "*also*" causes semantic repetition, while the causal relation of "*and*" and "*so*" causes the error in another instance.

4.3 Language Transfer among Connectors

As per the comparison-induction paradigm, the initial phase at the individual level involves identifying interlanguage congruity. Consequently, the percentage of L1 transfer at the individual level was calculated, encompassing the positive and negative transfer ratios for narrative connectors among English majors. This percentage represents the proportion of English majors with L1 transfer who utilize connectors. Notably, L1 transfer in connectors was observed during the inflectional transition, with the proportion of positive transfer exceeding that of negative transfer. Based on the proportions of positive and negative transfer observed in each individual learner's use of connectors, descriptive statistics were compiled to determine the average transfer proportions for the group of subjects (see Table 3).

Table 3: Ratio of L1 transfer at the group level

	1st test (%)		**2nd test (%)**		**3rd test (%)**		**4th test(%)**		**5th test(%)**	
	PT	NT	PT	NT	PT	NT	PT	NT	PT	NT
ADW	14	2	18	2	7.3	0.4	0.6	0	8.9	2.6
AW	46	0.5	40	0.5	51	1.3	60	1.1	36	0
CW	30	1.2	32	1.2	21	1.4	25	0.5	11	1.6
TW	43	0.5	57	0.5	49	0.6	25	0.8	34	0

Overall, the proportion of positive transfer surpassed negative transfer, indicating that Chinese has a more significant positive influence on the use of connectors in English. Particularly, the proportion of positive transfer was higher for adversatives than temporal, causal, and additive connectors. Conversely, the ratio of negative transfer for additives and causal connectors is greater than that of the other two categories.

The results confirm the hypotheses by Mohan and Lo (1985) and Al-khreseh et al. (2011), asserting that the transfer of the first language influences the use of linking words in second language acquisition and individual differences in language transfer. According to

Dynamic Systems Theory (DST), a system's complex changes are influenced by various factors, including its initial state, internal resources, and external environment (De Bot et al., 2007). Empirical research on the development of second language written proficiency from the perspective of DST indicates that learners' vocabulary ability in the second language is influenced by their life experiences, developmental stages, language input, writing topics, learning goals and motivation, learning beliefs, learning interests, learning strategies, resource allocation, writing time, and emotions (Larsen-Freeman, 2006; Verspoor et al., 2011).

The greater proportion of positive transfer in connector usage is attributed to several factors. Firstly, there are more similarities than differences in the usage and meaning of Chinese-English connectors, making this grammatical feature easier for English majors to comprehend. Secondly, the proportion of negative transfer changes due to improving learners' second language (L2) proficiency (Cai & Li, 2016; Zhang & Liu, 2013).

4.4 Changes of L1 Transfer

Based on the ratio of L1 transfer observed at the group level across the five instances, figures (Figures 1-4) depicting the changes in L1 transfer for each type of connector were generated, offering a clear representation of the evolving trends in L1 transfer. Furthermore, repeated measurements were utilized to ascertain whether there were statistically significant differences in the ratio of L1 transfer. Figure 1 presents the fluctuations in positive transfer and negative transfer of additives.

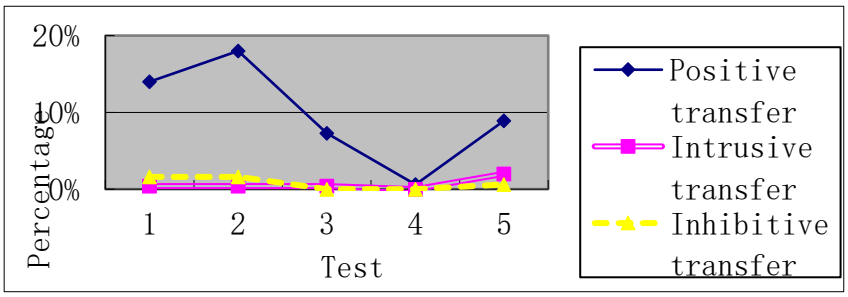

Figure 1: L1 transfer of additives

Figure 1 presents the L1 transfer ratio for additives: Positive additive transfer (18%) exceeded the negative transfer across the five tests. The ratio of positive transfer increased in the second and fifth tests, reaching 18% in the second test, and decreased in the third and fourth tests, reaching 0.6% in the fourth test. The ratio of intrusive transfer remained stable in the first three tests (0.4%), decreased to 0% in the fourth test, and increased in the fifth test, reaching 2%. The three types of L1 transfer in students' use of additives displayed inflectional variations, yet no substantial changes were observed. Repeated measurements of transfer ratios across additives indicated no significant differences in positive transfer ($F = 1.32$, $p = 0.27$), intrusive transfer ($F = 0.94$, $p = 0.45$), or inhibitive transfer ($F = 1.86$, $p = 0.21$). It indicates that positive transfer out-rates negative transfer and an inflectional change in L1 transfer was found in Chinese learners' additives.

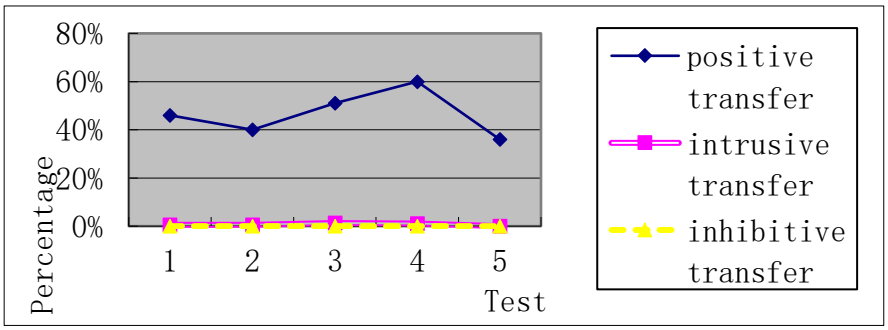

Figure 2: L1 transfer of adversatives

Figure 2 illustrates the positive and negative transfer on adversatives, and repeated measures are employed to explore any differences in L1 transfer. The figure demonstrates the changes in L1 adversative transfer (Figure 2). Positive transfer of adversatives (36%-60%) surpassed intrusive and inhibitive transfer. The ratio of positive transfer decreased in the second and fifth tests, but increased in the third and fourth tests. Conversely, the intrusive and inhibitive transfer ratio remained lower (1.3%) and stable across the five tests. Repeated measures analysis revealed no significant difference in the positive transfer ratio ($F = 1.86$, $p = 0.12$) and intrusive transfer ratio ($F = 0.59$, $p = 0.67$). Regarding inhibitive transfer of adversatives, the mean ratio

remained at 0% throughout the five tests. It means that in the use of adversatives among Chinese undergraduates, positive transfer out-rated and an inflectional change was found. Besides, little change was found among negative transfer.

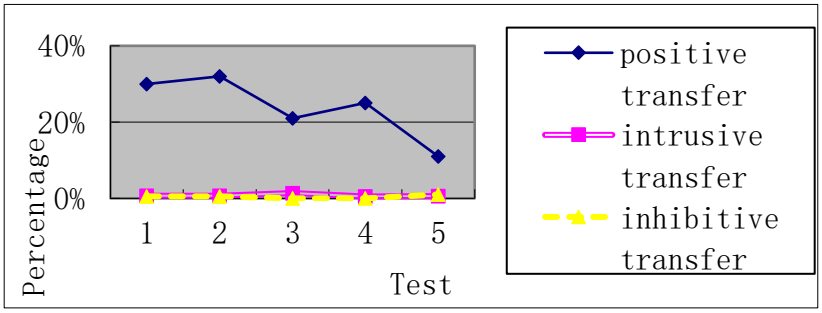

Figure 3: L1 transfer of causal words

Figure 3 illustrates the occurrences of both positive and negative transfer phenomena concerning causal words. Specifically, the positive transfer of causal words was observed to range from 11% to 32%, indicating a lower incidence than other types of connectors. Nonetheless, positive transfer of causal words surpassed that of intrusive transfer and inhibitive transfer. Notably, during the course of the study, positive transfer experienced fluctuations, revealing an increase in occurrence during the second and fourth test assessments, while displaying a decline during the third and fifth tests. In contrast, intrusive and inhibitive transfer exhibited lower rates at 1.6% and showed minimal fluctuations across the tests. A repeated measurement approach was employed to gain further insights into the dynamics of L1 transfer changes. The results indicated that no statistically significant differences were discerned in students' positive transfer ratio ($F = 1.46$, $p = 0.22$), intrusive transfer ratio ($F = 0.51$, $p = 0.73$), or inhibitive transfer ratio ($F = 1.00$, $p = 0.41$). This suggests that learners' utilization of causal words remained stable over the observation period. That is to say, the findings from this study shed light on the distinct patterns of transfer exhibited by causal words and their connectors. Positive transfer, while lower than other connector types, showed fluctuations in occurrence over time. Meanwhile, intrusive and inhibitive transfers demonstrated consistent, albeit infrequent, occurrences.

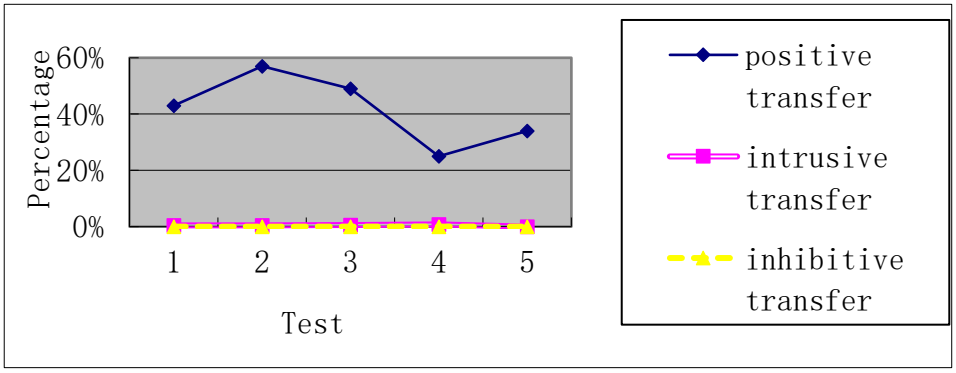

Figure 4: L1 transfer of temporal words

Figure 4 presents an examination of L1 temporal word transfer across five tests. The positive transfer ratio of temporal words was found to be higher than both intrusive transfer and inhibitive transfer ratios. Furthermore, the positive transfer ratio exhibited an increasing trend in the second and fifth tests, whereas it experienced a decrease in the third and fourth tests. Remarkably, a significant difference was observed in the decrease during the fourth test. Intrusive transfer to inhibitive transfer showcased a modest transition, and all five tests indicated minimal changes in these transfer types. To comprehensively analyze L1 transfer changes, a repeated-measurements approach was applied. The results revealed that students' positive transfer ratios exhibited significant differences ($F = 2.95$, $p = 0.02$), whereas the intrusive transfer ratios did not show any statistically significant variation ($F = 0.33$, $p = 0.86$). Interestingly, inhibitive transfer ratios of temporal words remained constant at 0% throughout all five experiments. Given the significant variation in students' use of temporal words, a repeated-measures ANOVA was conducted. By comparing the differences in proportions (Table 4), corresponding p-values of 0.20, 0.48, 0.04, and 0.40 were obtained. Notably, only the third and fourth instances exhibited statistically significant differences ($p = 0.04$), while the remaining cases did not demonstrate significant variations, indicating a notable change of positive transfer among temporal words between the third and fourth tests.

Table 4: ANOVA of positive transfer among temporal words

Factor	Mean Square	F	P
test1vs.test2	0.528	1.710	0.201
test2vs.test3	0.194	0.508	0.482
test3vs.test4	1.680	4.380	0.045*
test4vs.test5	0.225	0.731	0.339

In conclusion, the L1 temporal word transfer patterns analysis demonstrated that positive transfer prevailed over intrusive and inhibitive transfers. The observed fluctuations in positive transfer ratios during different tests underscored the dynamic nature of linguistic acquisition. Moreover, the insignificant changes in intrusive and inhibitive transfer ratios further emphasized the need to comprehensively understand learners' linguistic development in temporal expressions. The findings contribute valuable insights to the field of language transfer research and warrant further exploration in the context of temporal word usage among learners.

As indicated by Al-khresheh's (2011) study among Jordanian English learners, minimal positive transfer has been identified among additives. The study suggests that first language transfer plays a role in reducing additive use. According to Jarvis, second language learning involves linking a new language's formal system to an existing mental concept system in the native language (Jarvis, 2011). Consequently, learners' first language influences their acquisition of second- and third-language language and cognition. The acquisition of conjunctions is considered conducive to concept transfer. However, it is essential to recognize that the formal and semantic characteristics of Chinese conjunctions differ from those in English. Learners tend to "think" communicative information based on their first language conceptual system of conjunctions, resulting in the production of linguistic information that is structurally in L2 (English) but conceptually native. This phenomenon may lead to negative transfer. Notably, disparities between English and Chinese additives have been observed. Chinese clauses and sentences utilize fewer correlatives than English, with additives being rare

in Chinese but common in English (Chaeles & Sandra, 1981; Zhao, 1981; Yuan & Lu, 2011). The linguistic preference for using compound sentences instead of additives, or not using additives at all, becomes ingrained in learners' conceptual cognition, leading to a situation where their English output may be grammatically correct but conceptually influenced by their native language, resulting in negative transfer. Additionally, subject background knowledge and individual differences are factors influencing transfer.

The investigation of positive and negative transfer of adversatives in five times narratives differs from Li's (2018) corpus study on the use of "*danshi(but)*" and "*but*" among foreign students. Given that Chinese is a verb-prominent language, meanings of unexpected circumstances may be expressed through adverbs rather than conjunctions. In Chinese, "*danshi(but)*" and "*keshi(but)*" are not commonly used in unexpected situations. The present research and Li's study diverge in terms of how Chinese influences the use of English as a foreign language. Chinese English learners tend to utilize "*although...but*" (*suiran...danshi*) to express adversatives, possibly due to the encouragement of using adversatives and instruction on the differences between Chinese and English adversatives during compulsory education. Consequently, the proportion of positive transfer among adversatives is higher. Chinese and English adversatives connect sentences and convey contrast, resulting in similar semantic judgments. However, Chinese transitional correlatives appear in pairs, whereas English ones appear singly (Zhao, 1981; Yuan & Lu, 2011). For instance, "*suiran...danshi* (*although...but...)*" "*yinwei...suoyi* (*bacause...so)*" are used to represent a shifting and cause-and -effect connection in Chinese in pairs, but not in English (Quirk & Crystal, 2010). This grammatical disparity has been addressed in the English college entrance exam to enhance students' understanding and prevent negative transfer caused by English-Chinese discrepancies.

Similar findings were reported in Bolton's investigation on correlated terms, which demonstrated that first language transfer affects learners' use of causal terms (Bolton et al., 2002). According to the study, Chinese learners tend to think in Chinese and then translate their thoughts into English while writing. Chinese argumentative essays often employ "*yinwei&suoyi* (*because...so)*" to enhance logical reasoning. To achieve objectivity and logical

coherence in their theses, Chinese undergraduates frequently utilize causal conjunctions in English. Both Chinese and English causal words connect sentences and indicate causal relationships, demonstrating some similarities. However, Chinese causal correlatives typically appear in pairs, such as "suiran*...danshi... (although...but)*," while in English, only one is chosen to express the causal relationship (Huang, 1997; Zhang & Chen, 1981). Additionally, nearly two-thirds of the correlative words expressing the causal relationship are omitted in Chinese (Zhao, 1981). To mitigate negative transfer and errors, the grammatical rule that "*because*" and "*so*" cannot be used together has been tested and reinforced in middle schools.

Positive transfer of temporal words is more likely to occur due to the similarities between English and Chinese temporal correlatives, both of which initiate sentences and convey time and sequence (Chaeles & Sandra, 1981). Consequently, temporal words exhibit a high positive transfer rate, and negative transfer is relatively low due to the limited differences between English and Chinese temporal correlatives.

In addition, because of the individual differences in learning English, a non-linear change in first language transfer can be found in the use of connectors. In other words, the inflectional change of first language transfer in the use of connectors among Chinese undergraduates is caused by the individual differences among students. According to Dynamic Systems Theory (DST), a system's complex changes are influenced by various factors, including its initial state, internal resources, and external environment (De Bot et al., 2007). Learners' ability in the second language is influenced by their life experiences, developmental stages, language input, writing topics, learning goals and motivation, learning beliefs, learning interests, learning strategies, resource allocation, writing time, and emotions (Larsen-Freeman, 2006; Verspoor et al., 2011). In other words, there are variations among students in their second language learning and the use of connectors due to individual differences such as educational background, teaching methods and motivations. Hence, it is concluded that there are inflectional changes in the use of connectors among students.

5.0 CONCLUSION

The utilization of connectors in this study yields the following findings: (1) Temporal words (18.62%- 39.44%) and adversatives (22.54%- 42.07%) are employed more frequently compared to additives (14.48%- 24.53%) and causal words (16.04%- 25.41%). (2) Temporal words (91.75%- 96.30) and adversatives (90.41%- 96.88) exhibit higher rates of accuracy, with a distorted upward trend in average correct usage as students' English proficiency improves. (3) Positive transfer prevails over negative transfer in each type of connector, and while transfer ratios differ slightly, positive transfer generally outweighs negative transfer. Transfer patterns vary among students. (4) The positive transfer ratio of connectors is significantly higher than that of negative transfer, with only positive transfer among temporal terms showing a considerable decrease during the fourth test. Moreover, positive transfer of connectors in the five narrative works exceeds the two types of negative transfer; positive transfer displays inflectional changes, while negative transfer exhibits no significant variance.

In the context of second-language acquisition, the influence of the first language cannot be overlooked. Teachers play a crucial role in helping students harness positive transfer and minimize negative transfer. Traditional research on first language transfer (contrastive analysis) primarily focuses on identifying differences between the first language and the target language to reduce negative transfer. This study highlights that English and Chinese additives and causal correlatives are frequently misused, prompting teachers to examine disparities between such comparisons and practice.

The second key finding of this research underscores the significance of positive transfer in language acquisition. Language educators should address both similarities and differences between English and Chinese to facilitate students' comprehension of language distance. Based on the study's findings, it suggests that EFL students who recognize variations in English-Chinese conjunctions can effectively prevent negative transfer. However, students may fail to recognize the differences in spatial-temporal thinking between the two languages that often influence their usage. Therefore, teachers should help students understand how Chinese and English thought patterns impact language expression to enhance their correct use of connectors

and promote efficient writing.

This paper delves into the fundamental causes of EFL learners' connector usage in narratives from the perspective of Chinese and English thinking and cognition differences. However, there are certain limitations to consider. The current research faces challenges in collecting corpora with diverse first-language backgrounds. Additionally, the study does not utilize the crucial evidence of group heterogeneity for evaluating L1 transfer, wherein having two or more pieces of evidence is more convincing. Future studies should consider all four categories of first language transfer evidence to enhance credibility. Furthermore, the number of subjects was limited due to scheduling constraints, and the four L1 transfer semesters examined may not suffice for a comprehensive diachronic analysis. With only thirty participants, the study's sample size is inadequate, leading to a lower level of representativeness. Notably, there was an overrepresentation of female participants compared to males. To conduct a more robust investigation into diachronic trends in the use of connecting words by second language learners, future research should involve a larger participant pool, account for individual differences, and encompass a more extended timeframe.

REFERENCES

Al-Khresheh, M. (2011). An investigation of interlingual interference in the use of ‘and’ as a syntactic coordinating structure by Jordanian EFL learners. *European Journal of Social Sciences, 18*(3), 426-433.

Alexander, L. (1988). *Longman English grammar.* Longman Group UK Limited.

Altenberg, B., & Tapper, M. (2014). *Learner English on computer*. Routledge.

Bolton, K., & Graddol, D. (2012). English in China today: The current popularity of English in China is unprecedented, and has been fuelled by the recent political and social development of Chinese society. *English Today, 28*(3), 3-9.

Bolton, K., Nelson, G., & Hung, J. (2002). A corpus-based study of connectors in student writing: Research from the International Corpus of English in Hong Kong (ICE-HK). *International Journal of Corpus Linguistics, 7*(2), 165-182.

Cai, J. (2015). Comparison-induction methodological framework for judging L1 transfer in L2 production. *Journal of PLA University of Foreign Languages, 38*(5), 56-65.

Cai, J., & Li, J. (2016). The multidimensional and dynamic theoretical framework for language transfer. *Foreign Language Education, 37*(4), 43-51.

Chen, C. W.-Y. (2006). The use of conjunctive adverbials in the academic papers of advanced Taiwanese EFL learners. *International Journal of Corpus Linguistics, 11*(1), 113-130.

Crossley, S. A., Louwerse, M. M., McCarthy, P. M., & McNamara, D. S. (2007). A linguistic analysis of simplified and authentic texts. *The Modern Language Journal, 91*(1), 15-30.

De Bot, K., Lowie, W., & Verspoor, M. (2007). A dynamic systems theory approach to second language acquisition. *Bilingualism: Language and Cognition, 10*(1), 7-21.

Deng, F. (2006). The effect of the use of adverbial connectors on Chinese EFL learners' English writing quality. *CELEA Journal, 29*(1), 105-111.

Ellis, R. (2008). *The study of second language acquisition* (2nd ed.). Oxford University Press.

Field, Y., & Oi, Y. L. M. (1992). A comparison of internal conjunctive cohesion in the English essay writing of Cantonese speakers and native speakers of English. *RELC Journal, 23*(1), 15-28.

Ghasemi, M. (2013). An investigation into the use of cohesive devices in second language writings. *Theory and Practice in Language Studies, 3*(9), 1615-1623.

Graddol, D. (2006). *English next* (Vol. 62). British Council London.

Granger, S., & Tyson, S. (1996). Connector usage in the English essay writing of native and non-native EFL speakers of English. *World Englishes, 15*(1), 17-27.

Halliday, M. A. K., & Hasan, R. (1976). *Cohesion in English.* Longman group Ltd.

Halliday, M. A. K., & Hasan, R. (1989). *Language, context and text: Aspects of language in a social-semiotic perspective* (2nd ed.). Oxford University Press.

Hornby, A. S., Wehmeier, S., & Ashby, M. (2005). *Niu jin xian dai gao ji yin han shuang jie ci dian: Oxford advanced learner's English-Chinese dictionary.* Oxford University Press.

Hu, G. (1994). *Discourse cohesion and coherence*. Shanghai Foreign Language Education

Publication.

Hu, G. (2005). English language education in China: Policies, progress, and problems. *Language Policy, 4*, 5-24.

Huang, M. (1997). Common and heterogeneous features of compound sentences in English and Chinese. *Journal of Sichuan University of Foreign Languages, 1*, 86-90.

Jarvis, S. (2011). Conceptual transfer: Crosslinguistic effects in categorization and construal. *Bilingualism: Language and Cognition, 14*(1), 1-8.

Larsen-Freeman, D. (2006). The emergence of complexity, fluency, and accuracy in the oral and written production of five Chinese learners of English. *Applied Linguistics, 27*(4), 590-619.

Li, C. N., & Thompson, S. A. (1989). *Mandarin Chinese: A functional reference grammar* (Vol. 3). University of California Press.

Lin, D. (2004). Clausal errors in compositions of Chinese learners of English - A corpus-based study. *Journal of PLA University of Foreign Languages, 27*(3), 49-53.

Liu, M., & Braine, G. (2005). Cohesive features in argumentative writing produced by Chinese undergraduates. *System, 33*(4), 623-636.

Milton, J., & Tsang, E. S. C. (1993). A corpus-based study of logical connectors in EFL students' writing: Directions for future research. In R. Pemberton & E. S. C. Tsang (Eds.), *Studies in Lexis* (pp. 215–246). The Hong Kong University of Science and Technology Language Centre.

Mohan, B. A., & Lo, W. A.-Y. (1985). Academic writing and Chinese students: Transfer and developmental factors. *TESOL Quarterly, 19*(3), 515-534.

Narita, M., Sato, C., & Sugiura, M. (2004). Connector usage in the English essay writing of Japanese EFL Learners. *Proceedings of the Fourth International Conference on Language Resources and Evaluation, Lisbon, Portugal* (pp. 1171-1174). European Language Resources Association.

Pavlenko, A. (2008). Narrative analysis. In L. Wei & G.M. Melissa (Eds.), *The Blackwell guide to research methods in bilingualism and multilingualism* (pp. 311-325). Blackwell

Publishing Ltd.

Quirk, R., & Crystal, D. (2010). *A comprehensive grammar of the English language*. Pearson Education India.

Quirk, R., Greenbaum, S., Leech, G., & Svartvik, J. (2010). *A comprehensive grammar of the English language*. Longman.

Verspoor, M., Verspoor, M. H., & Behrens, H. (2011). Dynamic systems theory and a usage-based approach to second language development. In M. Verspoor, K. de Bot, & W. lowie (Eds.), *A dynamic approach to second language development* (pp. 25-38). John Benjamins.

Wang, C. (2015). Construction and construction context and second language learning. *Modern Foreign Languages, 38*(3), 357-365.

Wang, W. (2019). *An argument between Chinese and English temporal difference: A contrastive analysis*. Foreign Language Teaching and Education Press.

Wang, W., & Gao, X. (2008). English language education in China: A review of selected research. *Journal of Multilingual and Multicultural Development, 29*(5), 380-399.

Wei, R., & Su, J. (2012). The statistics of English in China: An analysis of the best available data from government sources. *English Today, 28*(3), 10-14.

Witte, S. P., & Faigley, L. (1981). Coherence, cohesion, and writing quality. *College Composition and Communication, 32*(2), 189-204.

Yao, S. (2014). An analysis of Chinese students' performance in IELTS academic writing. *The New English Teacher, 8*(2), 102-138.

Yuan, S., & Lu, J. (2011). A comparison of textual cohesion functions of Chinese and English adverbial related words. *Journal of Shanghai Normal University: Philosophy and Social Sciences Edition, 40*(2), 117-127.

Zhang, H. (2018). A study on pronoun confusion of Chinese English Beginners from the perspective of concept transfer. *Morden Foreign Language, 41*(3), 389-399.

Zhang, H., & Liu, Y. (2013). English vocabulary learning and concept transfer - Taking common verb collocations, class connections and semantic rhyme as examples. *Foreign*

Languages and Foreign Language Teaching, 6, 38-43.

Zhang, J., & Chen, Y. (1981). *Outline of comparative grammar in English and Chinese*. Commercial Press.

Zhao, Z. (1981). *English and Chinese grammar comparison*. Shaanxi People's Publishing Press.

Zhu, Y., Zheng, L., & Miao, X. (2001). *A comparative study of cohesion means in English and Chinese texts.* Shanghai Foreign Language Education Press.

Zufferey, S., Mak, W., Degand, L., & Sanders, T. (2015). Advanced learners' comprehension of discourse connectives: The role of L1 transfer across on-line and off-line tasks. *Second Language Research, 31*(3), 389-411.