

# Analysis of Second Language Writing Based on Discourse Coherence Theory- A Case Study of High School Students in A Chinese International School

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**Abstract.** Students' discourse coherence has always been a topic that is often discussed in writing. For intermediate-level students with the purpose of taking exams, discourse coherence is also an important part of writing. Based on the students' discourse analysis, this paper obtains the frequency of students' use in the second language writing process, and uses the form of interviews to study the thinking of students' writing process. The results of the study found that students at the intermediate level use reference and conjunction much more than the other methods, as others students at the advanced level. However, substitution and ellipsis devices are almost missing in their writing. Such results may be influenced by the test-oriented writing teaching mode in the second language writing class, which will increase the huge difference and partial loss between the different methods used by students. Therefore, in second-language writing teaching for intermediate-level students, teachers can modify the classroom according to the current problems of students.

**Keywords:** Cohesive devices; intermediate proficiency level; second language writing.

## 1. Introduction

Writing has traditionally been the most difficult skill of the four skills for second language learners. English education in China has always focused on the accuracy of grammar and vocabulary, which has led to most students being able to write articles with few or no mistakes after revision and practice, but many of them still have problems with discourse coherence. Many teachers find that students' composition will be vague, incoherent, unstructured, disorganized, etc [1]. In this case, some of them cannot give appropriate guidance and suggestions in terms of the coherence and cohesion of the composition after completing the grammar and vocabulary correction of the composition.

In comparing the writing of native English learners and non-native English learners, research has shown that non-native speakers use fewer cohesive patterns, while Asian second language learners share similar cohesion patterns [2,3].

Based on the theory of Halliday and Hasan, many scholars have conducted research on the discourse cohesion and coherence of second language learners [4]. Studies have shown that learners' errors in grammatical cohesion mainly come from the intralingual transfer, and this transformation is mainly related to grammatical proficiency [5].

In the study of discourse coherence, many studies have focused on the range and frequency of cohesive devices. Dastjerdi and Samian mainly focused on analyzing a specific type of article of Iranian EFL non-English major college students [6]. The study has found that the wrong use of cohesive devices made the article difficult to understand. The data in the paper has indicated that students make much more mistakes in vocabulary devices than references and conjunctions. Among the four kinds of grammatical coherence (reference, substitution, ellipsis, conjunction), reference is the most frequently used form by students, and this form also has the highest error rate due to overuse and omission [7,8]. Another study on frequency has been conducted by Saputra and Hakim. The researchers have revealed that the reason for the difference in the frequency of learners using four kinds of grammatical coherence in writing may be due to learners' unfamiliarity and lack of relevant knowledge [9]. For lexical cohesive devices, learners are more inclined to choose to use synonyms rather than other means (repetition, superordinates and antonyms).

On the basis of analyzing errors, Bui has conducted prompt interviews with students, with the goal of exploring the connections between students' errors on cohesive devices and the reasons for these errors. In the study, the reason why students make mistakes is mainly due to misuse caused by ignorance of some cohesive devices [10].

Many scholars have also started to study the discourse coherence of Chinese English learners [11,12]. Based on the limitations of Meisuo's study, Ong has conducted research on 20 Chinese students at a Singapore university. In the research, Ong mainly analyzed the mistakes that students made frequently, among which the most frequent problems were conjunctions. Some conjunctions are used more frequently than others, but some conjunctions may not appear at all. The reason for this may still be the scope of cohesive devices mastered by students. In recent years, many scholars have also begun to study discourse coherence [11-13].

Another study compared the compositions of Chinese students and English-speaking students. The study has revealed that students whose first language is Chinese, compared with students whose first language is English, have lower cohesion density and use lexical cohesion. Moreover, some references and conjunctions are used very rarely [13]. A related study found that references are used more frequently than conjunctions in the compositions of Chinese college students, and the types of references used at different levels will also make differences [14].

Based on the above studies, cohesion problems have great significance for the learning and teaching of second language writing. However, most of the current research is aimed at college English majors or non-English major students. The learners participating in the research may have reached a high level of proficiency in English, but there is no good instruction for the research on high school students with relatively limited proficiency. In addition, the research articles are rarely task-based or exam-based. For Chinese high school students, writing with the goal of exams will restrict students' writing variety. There are also some studies on grammatical errors and lexical errors in high school students and test-oriented writing, but there is still a big gap in the cohesive device's analysis of test-oriented high school writing [15,16]. Therefore, this study will discuss the analysis of high school students' English writing cohesive devices based on the argumentative essay task, taking international high school students as an example.

This paper will adopt the method of text analysis and interview to conduct research on exam-oriented argumentative writing. It is hoped that this paper can improve students' learning of second language writing in the future and provide some guidance for English writing teachers.

## 2. Method

### 2.1. Research Objects

This study selects 10 students who are studying in the third year of international high school and conducts research on cohesive devices based on their ten argumentative papers. All the students participating in this study are second language learners who have received two and a half years of writing training and have achieved a writing score of 5.5 to 6 on the IELTS test. According to IELTS in CEFR scale, all students are at the B2 level, which means that all participants have a certain vocabulary and grammar range with some spelling or grammatical errors. In addition, participants have acquired more than 15 hours of short argumentative essays in class and more than 30 after-class exercises.

### 2.2. Research Procedure

This study requires all participating students to complete an argumentative essay writing of at least 250 words within one hour. The topic is as follows:

*Some people think that environmental problems are too big for individuals to solve. Others, however, believe that these problems cannot be solved if individuals do not take action. Discuss both views and give your own opinion.*

The choice of time-limited writing in class is to meet the needs of students for the exam, that is, they need to complete short essays within one hour, and ensure that students do not use any translation tools or networks. The collected data will be analyzed according to the classification of cohesive devices [4]. Halliday and Hassan have put forward the hypothesis about the text of cohesion to give many second language researchers directions. The factors for analyzing the text of cohesion, in theory, are reference, substitution, ellipsis, conjunction, and lexical cohesion [4].

The content of the analysis is mainly on the frequency of use and error. The usage frequency of students is used to analyze students' mastery of cohesive devices, and the error rate is used to analyze their mastery of existing knowledge. Based on the data, personal interviews will be conducted with these ten students for this study. It mainly discusses the frequently used cohesive devices. The purpose of this research is to analyze students' thoughts in the writing process, and to find out the reasons why students use certain cohesive devices frequently. Based on the data obtained, interviews based on students' writing thinking will be conducted. Interviewers will ask questions based on the characteristics of students using cohesive devices, with the purpose of exploring how students think in the process of organizing language and finding the reasons that affect students' discourse coherence.

### 2.3. Research Hypotheses

This study proposes the following hypotheses about high school students' use of cohesive devices. Students at the intermediate level may use reference and lexical cohesion more frequently than other methods, and the degree of repetition will be higher. Learners of high school students may choose cohesive devices more based on the frequency required by classroom teachers.

## 3. Result

This study will first analyze how often students use cohesive devices and details, and how often subtypes are used. In the second part, the text content of some student interviews will be displayed.

### 3.1. Frequency of Cohesive Devices Use

The data show that there are huge differences in the frequency of different cohesive means used by students (see Table 1). Students use the reference most frequently (58.2%), more than half of the total. The second most frequently used in conjunction (25.3%), followed by the use of lexical cohesion (14.3%). In high school students' essays, substitution and ellipsis are used very infrequently, accounting for 2.4% and 0% respectively. In other words, the use of substitution and ellipsis in high school students' essays is almost missing. Therefore, based on the overall data, data analysis will be focused on the use of reference, conjunction, and lexical cohesion. The discussion of substitution and ellipsis will be reflected in the interview section.

**Table 1.** Frequency of Cohesive Devices

|                  | N   | %    |
|------------------|-----|------|
| Reference        | 358 | 58.2 |
| Substitution     | 15  | 2.4  |
| Ellipsis         | 0   | 0    |
| Conjunction      | 156 | 25.3 |
| Lexical Cohesion | 88  | 14.3 |
| Total            | 617 |      |

#### 3.1.1 Reference

The analysis results of the reference are shown in Table 2, where the sub-type of reference is divided into personal, demonstrative, and comparative reference. Among the students' 10 composition materials, the total number of references used by the students is 358. Among these data, demonstrative reference is used the most, accounting for 61.5% of the total. The use of personal references is half of the number of demonstrative references, accounting for 33.5%. In the end, the

comparative reference was only used 18 times (5%). Compared with the former two, the frequency of using the latter method is very low, and it appears concentratedly in the compositions of certain students.

**Table 2.** Frequency of Reference

|                         | N   | %    |
|-------------------------|-----|------|
| Personal Reference      | 120 | 33.5 |
| Demonstrative Reference | 220 | 61.5 |
| Comparative Reference   | 18  | 5    |
| Total                   | 358 |      |

### 3.1.2 Conjunction

Table 3 shows the frequency of student conjunction usage. The frequency of students using additive and temporal conjunction devices in their essays is almost the same, accounting for 36.8% and 38.2% respectively. Adversative was used 22 times, accounting for 16.2% of the total. The type of conjunction with the lowest frequency is causal, accounting for only 8.8%.

**Table 3.** Frequency of Conjunction

|             | N   | %    |
|-------------|-----|------|
| Additive    | 50  | 36.8 |
| Adversative | 22  | 16.2 |
| Causal      | 12  | 8.8  |
| Temporal    | 52  | 38.2 |
| Total       | 136 |      |

### 3.1.3 Lexical Cohesion

The total number of lexical cohesions that students used in their compositions were 88 (see Table 4). Data analysis shows that 49 students used reiteration, accounting for 55.7% of the total, and 39 students used collocation at the same time, accounting for 44.3% of the total. In reiteration, the number of Synonyms used is 29, the number of Meronyms is 8, and the number of Superordinates is 1.

**Table 4.** Frequency of Lexical Cohesion

|             | N  | %     |
|-------------|----|-------|
| Reiteration | 49 | 55.7% |
| Collocation | 39 | 44.3% |
| Total       | 88 |       |

## 3.2. Interview Result

This part is based on the analysis of the usage of the students' essays and interviews with the students. According to the data, the usage frequency of other cohesive devices by students is much higher than that of substitution and ellipsis. Among them, substitution appeared in the essays of student 4 and student 5, and no student used ellipsis in the essay. Based on this, questions are asked about the lack of these two cohesive means for students, and some of the answers will be shown in the discussion part.

Regarding the infrequent use of substitution, the students' most frequent answers were "I didn't realize it could be used like this at the time" and "I didn't have time to think". As for the absence of ellipsis, most students answered, "I don't know that it can be used in this way".

## 4. Discussion

The study explored high school students' use of cohesive devices on a timed writing test. Students' higher and lower frequencies use specific linking devices to explore coherence issues in student

essays. Based on the results of their use, the interview session focused on the lack of some means in the time-limited writing, so as to understand the students' thinking process during the exam.

#### **4.1. Use of References**

The results of the first part of the study found that the most cohesive devices used in the essay were references. However, some previous studies have shown that lexical cohesion is higher than reference devices in the frequency of use of cohesive devices by college students [6,10]. This shows that students with different English proficiency levels may have differences in usage. The use of demonstrative reference by intermediate-level students is higher than that of personal reference, which is consistent with the research results of Saputra and Hakim for college English students [9]. However, the gap between the use frequency of demonstrative and personal reference by intermediate-level students is much higher than that of advanced-level students. The reason may be that intermediate-level students' composition learning is modeled due to their needs for test results. Therefore, the output of high school students in the writing process is based on the basic sentence patterns and expressions taught by the teacher in class, which also leads to a more homogeneous connection method used by the ten students in their writing.

#### **4.2. Use of Conjunction**

The results of the use of conjunction show that students are better at using additive and temporal cohesive devices. In the interview, the students mentioned that "the structure of the article is fixed" and "according to the structure taught by the teacher, the arguments can be listed, and conclusions can be drawn". When students choose conjunctions, they are more influenced by the structure of the essay taught by the classroom writing teacher. In other words, the teacher will make structural requirements based on the argumentative essay test rubric, such as the need for fixed opening sentences, ending sentences, and the need to state multiple parallel viewpoints in the body part. Therefore, students tend to choose additive and temporal conjunction when completing their composition to meet their needs for the test.

#### **4.3. Use of Reiteration and Collocation**

According to the use of lexical cohesion, the frequency of use of reiteration and collocation is similar. But it is worth mentioning that the frequency of students using synonyms is much higher than that of superordinates, and generalized words. Students mentioned in the interview that "the writing test syllabus has requirements for vocabulary replacement, so the teacher taught them how to replace by using synonyms", but some students also mentioned, "I don't know that superordinates and general words can also appear as replacement words." Even one student pointed out that "I don't know what superordinate is". Thus, it can be seen that students' mastery of synonyms will be far greater than the other two methods. One student mentioned that "the teacher taught us the two methods in class, but I don't know how to use them." This also shows that some high school students have an incomplete understanding of superordinate and general words.

#### **4.4. Use of Substitution and Ellipsis**

Finally, the interview result shows that the students rarely or even lack the use of substitution and ellipsis, which will be discussed. Overall, there are three main reasons why the results analysis of student articles presents this state. First, most students mentioned that they could not think of a way to complete their essays by omitting them during the exam. This may be related to the frequency with which students use such cohesive means in the learning process. Secondly, many students mentioned that the word count requirement will make them tend to write complete sentences, which also means that ellipsis will not be the first choice for students in writing for exams. Based on the limitations of the exam, even if some students want to use ellipsis devices, they will have to give up because of the word count requirements. Finally, there are time constraints on students' writing, which affects their ability to reproduce unfamiliar knowledge.

The above results are as previously speculated that the use of cohesive means by high school students is related to the focus of teachers' classroom writing teaching. Therefore, in teaching, this result can give appropriate suggestions. In the writing class, teachers should rationally design classrooms and teach students a variety of cohesive devices based on the knowledge of discourse coherence, such as through writing training, giving examples and explanations, etc. Through teaching methods, students' writing skills in discourse coherence can be gradually improved and enriched.

It should be noted that due to the limited number of samples in this study, and the writing patterns of high school students coming from students in the same class, there may be certain limitations. First of all, the students' writing patterns are highly similar, so the problems that may exist in the subjects of this study are not universal. Secondly, there are only 10 samples in this study, so there is a lack of more sample data as support. Perhaps when the sample size is enlarged, the problem of high school students will be clearer and more reliable. In addition, high school students have various writing genres, but this study focuses on a specific category, which means that students may also have differences in different styles of writing. Lastly, this argumentative essay is written based on test scores, so it may have a certain impact on the diversity of students' use of cohesive devices.

## 5. Conclusion

Through research, this paper has found that Chinese high school students at the middle level of English proficiency also have obvious characteristics in using cohesive devices. Students use more reference and conjunction methods in cohesive devices than other methods, and they hardly use substitution and ellipsis methods. This fact may come from the fact that the modular learning based on test-taking in the writing class leads students to use more of a certain type of means in writing, while ignoring the use of other types. The time and word limit of students during the examination process will also affect the students' choice of cohesive devices.

This paper turns the research perspective to intermediate-level students, which can help other researchers to study the discourse coherence of intermediate-level students, and is also helpful to intermediate-level writing. In addition, this paper takes test-oriented English learners as the research target, which is also beneficial to the text analysis of most test-oriented L2 writers.

Although the coherence analysis of second language writing is mostly based on advanced-level English learners, it is still blank for intermediate-and advanced-level students. In the future, more research can be conducted among such students to facilitate the coherence of second-language writing for intermediate and advanced students.

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