A Study of Non-structure Cohesion in the Texts in New Senior English for China Student’s Book 5 and 6

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Abstract—Since the publication of Cohesive in English co-authored by Halliday and Hasan in 1976, more linguistics at home and abroad have been analyzing and studying this theory in detail. Thus, cohesion theory has been steadily growing. Existing studies, however, tended to focus on the analysis of cohesive devices in a variety of discourses other than the texts from English textbooks for Chinese high school learners. To address this gap, this study used 5 articles from New Senior English for China Student’s Book 5 and 6 to explore the non-structure cohesive devices. By means of the coding scheme suggested by Halliday and Hasan in 1976, the cohesive patterns in a text were represented. The results showed that coherence in the 5 texts largely depends on lexical cohesion. Then, a further analysis of the five lexical cohesive devices showed that among them, same item having reference that is identical proved to be the most in the texts. The main reasons is perhaps that since the texts are from school textbooks for Chinese teenagers, the student readers almost certainly do not have the ability to make much sense of a fairly complex text whose coherence may largely depends on substitution or ellipsis.

Index Terms—cohesive patterns, non-structure cohesion, text

I. INTRODUCTION

Cohesion refers to the linguistic patterns by which the speaker can signal the experiential and interpersonal coherence of the text—and is thus a textual phenomenon—we can point to features of the text which serve a cohesive function (Geoff Thompson, 2008). Cohesion occurs where the interpretation of some element in the discourse is dependent on that of another (Halliday & Hasan, 1976). In Language, Context and Text published in 1985 by Halliday and Hasan, Hasan expanded the covering range of the concept of cohesion, which is divided into structure cohesion and non-structure cohesion. The former one includes parallel structure, theme—rHEME structure, given information—new information structure. The latter is made up of reference, substitution, ellipsis, lexical cohesion and conjunction.

The five types of non-structure cohesion have a great impact on textual research at home and abroad. Our intention in this paper is to survey the lexicogrammatical resources in some of the reading texts and analyse the cohesive patterns in them, through which a student reader is able to process a text, thus interpret it and determine how he does so.

II. ANALYSIS OF NON-STRUCTURE COHESION IN TEXTS

The coding scheme suggested by Halliday and Hasan in 1976 provides a means of representing the cohesive patterns in a text, that is, reference, substitution, ellipsis, conjunction and lexical cohesion. Besides, they also provided us with a term—a tie—to refer to a single instance of cohesion, a term for one occurrence of a pair of cohesively related items.

For the text, each sentence is given an index number, and the total number of ties in that sentence is entered in the appropriate column. Then for each tie we specify the type of cohesion and its distance and direction (Halliday & Hasan, 1976).

| Sentence number | No. of ties | Cohesive item | Type | Distance | Presupposed item |
|-----------------|------------|---------------|------|----------|-----------------|
| 2               | 4          | But           | C23.1 | 0        | (S.1)           |
|                 |            | he (2x)       | R11.6 | 0        | John Snow       |
|                 |            | help          | L5    | 0        | attended        |
|                 |            | ordinary people| L5    | 0        | Queen Victoria  |
| 3               | 3          | This          | R21.6 | 0        | cholera         |
|                 |            | disease       | L3.6  | 0        | cholera         |
|                 |            | its           | R13.8 | 0        | cholera         |
| 4               | 1          | its (2x)      | R13.8 | 0        | cholera         |
| 5               | 3          | So            | C31.1 | 0        | (S.4)           |
|                 |            | people        | L1.6  | N.2      | people          |
|                 |            | die           | L5    | N.1      | deadly          |
John Snow wanted inspired face/solve help

He cholera controlled/ found understand cause

He→John Snow interested wanted cholera people cholera people

The first two theories explained cholera people

Gas air it cholera cholera

He→John Snow interested wanted cholera people cholera people

Susan another outbreak(S.5)London(S.1) its day

He→John Snow interested cholera cholera people cholera people

in two particular streets another outbreak(S.5)

He→John Snow found why cause

First he dead people people

He→John Snow why cause cholera

Broad Street places/where
| Sentence number | No. of ties | Cohesive item | Type | Distance | Presupposed item |
|-----------------|------------|---------------|------|----------|------------------|
| 21              | 4          | He            | R11.6 | M.5      | him→John Snow   |
|                 |            | also          | C11.1 | 0        | (S.20)           |
|                 |            | houses        | L5    | 0        | Broad Street     |
|                 |            | deaths        | L1.8  | 0        | deaths           |
| 22              | 3          | He (2×)       | R11.6 | M.6      | He→John Snow    |
|                 |            | this          | R21.6 | 0        | (S.21)           |
|                 |            | investigations| L5    | N.6      | information      |
| 23              | 5          | He            | R11.6 | M.7      | He→John Snow    |
|                 |            | discovered    | L5    | 0        | investigations   |
|                 |            | these         | R21.6 | N.1      | no deaths       |
|                 |            | people        | L4.6  | N.1      | no deaths       |
|                 |            | 7 Cambridge Street | L5 | N.2 | Broad Street      |
| 24              | 4          | They          | R14.6 | 0        | people           |
|                 |            | beer          | L5    | 0        | pub              |
|                 |            | water         | L1.6  | N.3      | water            |
|                 |            | pump          | L1.6  | N.3      | pump             |
| 25              | 3          | the           | R23.6 | 0        | the water        |
|                 |            | water         | L1.6  | 0        | London           |
|                 |            | was to blame  | L5    | N.5      | cause            |
| 26              | 7          | Next          | C41.1 | 0        | 7 Cambridge Street |
|                 |            | John Snow     | L1.6  | N.12     | John Snow        |
|                 |            | looked into   | L5    | N.2      | discovered       |
|                 |            | the           | R23.6 | 0        | the water        |
|                 |            | water         | L1.6  | 0        | the water        |
|                 |            | these         | R21.6 | N.2      | 7 Cambridge Street |
|                 |            | streets       | L1.7  | N.2      | 7 Cambridge Street |
| 27              | 5          | He            | R11.6 | 0        | John Snow        |
|                 |            | found         | L5    | 0        | looked into      |
|                 |            | it            | R13.6 | 0        | source           |
|                 |            | water         | L1.8  | 0        | water            |
|                 |            | London        | L1.6  | N.12     | London           |
| 28              | 5          | He            | R11.6 | M.1      | He→John Snow    |
|                 |            | astonished    | L2.6  | N.22     | terrified        |
|                 |            | people        | L1.7  | N.4      | people           |
|                 |            | Broad Street  | L1.6  | N.7      | Broad Street     |
|                 |            | pump          | L1.6  | N.3      | pump             |
| 29              | 4          | Soon          | C44.2 | 0        | (S.28)           |
|                 |            | afterwards    | C41.1 | 0        | (S.28)           |
| 30              | 5          | He            | R11.6 | M.2      | He→John Snow    |
|                 |            | cholera       | L2.6  | 0        | disease          |
|                 |            | spread        | L1.6  | N.13     | spread           |
|                 |            | germs         | L5    | N.2      | polluted/dirty   |
|                 |            | gas           | L1.6  | N.20     | gas              |
| 31              | 10         | another       | R3.3  | N.2      | Broad Street     |
|                 |            | part          | L3.8  | N.2      | Broad Street     |
|                 |            | London        | L1.6  | N.3      | London           |
|                 |            | he            | R11.6 | M.3      | He→John Snow    |
|                 |            | found         | L1.6  | N.3      | found            |
|                 |            | evidence      | L1.6  | N.17     | evidence         |
|                 |            | two other     | R33.9 | N.10     | Many of the deaths |
|                 |            | deaths        | L1.8  | N.10     | deaths           |
|                 |            | Broad Street  | L1.6  | N.2      | Broad Street     |
|                 |            | outbreak      | L1.6  | N.14     | outbreak         |
| 32              | 5          | Broad Street  | L1.6  | 0        | Broad Street     |
|                 |            | the           | R23.6 | N.7      | the water from the pump |
|                 |            | water/it      | L1.6  | N.7      | the water from the pump |
|                 |            | pump          | L1.6  | N.3      | pump             |
|                 |            | house         | L1.9  | N.10     | houses           |
| 33              | 6          | she/her       | R12.6 | 0        | a woman          |
|                 |            | died          | L5    | N.1      | deaths           |
|                 |            | cholera       | L1.6  | N.2      | cholera          |
|                 |            | drinking      | L1.6  | N.8      | drunk            |
|                 |            | the           | R23.6 | 0        | the water        |
|                 |            | water         | L1.6  | 0        | the water        |
| 34              | 6          | this          | R21.6 | 0        | (S.33)           |
|                 |            | evidence      | L1.6  | N.2      | evidence         |
|                 |            | John Snow     | L1.6  | N.7      | John Snow        |
|                 |            | polluted      | L1.6  | N.6      | polluted         |
|                 |            | water         | L1.6  | 0        | water            |
As it can be seen from the above histogram, among the five lexical cohesive devices, lexical cohesion appears 109 times which proved to be the most in the texts while reference secures the second place with 41 occurrences, but far less than the first one. Conjunction and ellipsis are even less, 8 and 2 occurrences respectively. Substitution accounts for nothing without occurring.

### Figure 2-1 Cohesive patterns in text 1

![Cohesive patterns in text 1](image)

### Table 2-2

| Sentence number | No. of ties | Cohesive item | Type | Distance | Presupposed item |
|-----------------|-------------|----------------|------|----------|------------------|
| 2               | 2           | he             | R11.6| 0        | Nicolaus Copernicus |
|                 |             | them           | R14.6| 0        |                  |
| 3               | 1           | the sun        | L5   | 0        | solar            |
| 4               | 6           | Yet he/him     | C21.1| 0        | Nicolaus Copernicus |
|                 |             | his theory     | R11.6| M.1+N.1  |                  |
|                 |             | R11.8          | M.1+N.1|         |                  |
|                 |             | such an idea   | L4.6 | 0        |                  |
| 5               | 4           | They God       | R14.6| 0        | Christian Church |
|                 |             | the earth      | L5   | 0        | Christian Church |
|                 |             | the centre of the solar system | L1.6 | N.2 | the earth |
| 6               | 3           | planets in the sky | L1.9 | N.2 | planets |
|                 |             | move           | L5   | N.2 | in the sky |
| 7               | 1           | Others         | R33.6| 0        | some planets |
| 8               | 4           | This the earth | R21.6| 0        | some planets in the sky...loop(S.6) |
|                 |             | the centre of the | L1.6 | N.2 | the centre of the solar system |

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| Sentence number | No. of ties | Cohesion item | Type | Distance | Presupposed item |
|-----------------|-------------|---------------|------|----------|------------------|
| 9               | 3           | Copernicus    | L.1.6 N.7 | Nicolas Copernicus | some planets in the sky...loop(S.6) (S.7) The problem |
| 10              | 4           | He           | R.11.6 | 0        | Copernicus |
|                 |             | observations | L.5 | N.3      | noticed planets |
|                 |             | the stars    | L.2.6 | N.1   | planets |
|                 |             | them         | R.14.6 | 0        | these problems |
| 11              | 4           | But          | C.21.2 | 0   | (S.10) |
|                 |             | his          | R.11.8 | M.1 | He→Copernicus |
|                 |             | theory       | L.1.6 | N.6 | theory |
|                 |             | do that      | S.24 | 0 | (S.10) |
| 12              | 4           | So           | C.31.1 | 0 | (S.11) |
|                 |             | he(2×)       | R.11.6 | M.2 | his→He→Copernicus |
|                 |             | in(2×)       | R.13.6 | 0 | |
|                 |             | theory       | L.1.6 | 0 | theory |
| 13              | 3           | In 1514      | L.5 | 0       | between 1510 and 1514 |
|                 |             | he           | R.11.6 | M.3 | →he→his→He→Copernicus |
|                 |             | it           | R.13.6 | 0 | theory |
| 14              | 3           | he           | R.11.6 | M.4 | →he→he→his→He→Copernicus |
|                 |             | old          | L.5 | N.2 | new |
|                 |             | theory       | L.1.8 | N.1 | theory |
| 15              | 6           | he           | R.11.6 | M.5 | →he→...→Copernicus |
|                 |             | the centre of the solar system | L.1.6 | N.6 | the sun |
|                 |             |             |       |         | center of the solar system |
| 16              | 11          | He           | R.11.6 | M.6 | →he→...→Copernicus |
|                 |             | also         | C.11.1 | 0 | (S.15) |
|                 |             | suggested/explained | L.5 | 0 | showed |
|                 |             | the earth   | L.1.6 | 0 | the earth |
|                 |             | went round  | L.5 | 0 | going round |
|                 |             | the sun    | L.1.6 | 0 | sun |
|                 |             | changes    | L.1.9 | N.14 | changes |
|                 |             | movement   | L.5 | N.9 | move |
|                 |             | the planets | L.1.6 | 0 | the planets |
|                 |             | brightness | L.5 | N.8 | brighter |
|                 |             | the stars | L.2.6 | 0 | the stars |
| 17              | 5           | His(2×)     | R.11.8 | M.7 | →He→...→Copernicus |
|                 |             | friends     | L.1.6 | N.3 | friends |
|                 |             | in(2×)      | R.11.6 | M.7 | →He→...→Copernicus |
|                 |             | ideas       | L.1.7 | N.12 | idea |
|                 |             | Copernicus | L.1.6 | N.7 | Copernicus |
| 18              | 5           | He(3×)      | R.11.6 | 0 | Copernicus |
|                 |             | the Christian Church | L.1.6 | N.13 | the Christian Church |
|                 |             | published   | L.1.6 | 0 | publish |
|                 |             | it          | L.13.6 | 0 | ideas |
|                 |             | in 1543   | L.5 | N.4 | in 1514 |
| 19              | 2           | he          | R.11.6 | M.1 | →He→Copernicus |
| 20              | 6           | The Christian Church | L.1.6 | 0 | the Christian Church |
|                 |             | his         | R.11.8 | M.1 | →He→Copernicus |
|                 |             | theory      | L.2.6 | N.1 | ideas |
|                 |             | God’s       | L.1.6 | N.13 | God |
|                 |             | idea        | L.1.8 | N.17 | ideas |
|                 |             | attacked    | L.1.6 | N.1 | attacked |
| 21              | 6           | Yet         | C.21.1 | 0 | (S.20) |
|                 |             | Copernicus’ | L.1.6 | N.3 | Copernicus |
|                 |             | theory      | L.1.6 | 0 | theory |
|                 |             | now         | L.5 | N.2 | in 1543 |
|                 |             | ideas       | L.1.9 | 0 | idea |
|                 |             | the universe | L.2.6 | N.5 | the solar system |
| 22              | 9           | His         | R.11.8 | 0 | Copernicus’ |
theory L1.6 0 theory
the Christian L1.6 N.1 the Christian
idea L1.6 0 ideas
earth(2×) L1.6 N.5 the earth
God L1.6 N.1 God’s
created L2.6 N.6 made
the centre of L1.6 N.6 the centre of
the universe L1.6 0 the universe

| Sentence number | No. of ties | Cohesion item | Type | Distance | Presupposed item |
|-----------------|-------------|---------------|------|----------|-----------------|
| 23              | 3           | Copernicus    | L1.6 | N.1      | Copernicus’     |

As it can be seen from the above histogram, among the five lexical cohesive devices, lexical cohesion appears 66 times which proved to be the most in the texts while reference secures the second place with 27 occurrences, but far less than the first one. Conjunction and substitution are even less, 5 and 1 occurrences respectively. Ellipsis accounts for nothing without occurring.

| Sentence number | No. of ties | Cohesion item | Type | Distance | Presupposed item |
|-----------------|-------------|---------------|------|----------|-----------------|
| 24              | 4           | Now           | L1.6 | N.2      | now             |
|                 |             | people        | L1.6 | N.4      | people          |
|                 |             | his           | R11.8| 0        | Copernicus’     |
|                 |             | theory        | L1.6 | N.1      | theory          |

Figure 2-2 Cohesive patterns in text 2
in the seventeen century | L5 | 0 | Now
---|---|---|---
7 | 4 | thus | R21.6 | 0 | (S.6)
Scotland | L1.6 | 0 | Scotland
England | L1.6 | N.1 | England
Wales | L1.6 | 0 | Wales
8 | 9 | Finally | C43.2 | 0 | (S.7)

| Sentence number | No. of ties | Cohesion item | Type | Distance | Presupposed item |
|-----------------|-------------|---------------|------|----------|------------------|
| 7               |             | English       | L5   | 0        | England          |
|                 |             | in the early twentieth century | L5 | 0 | in the seventeen century
|                 |             | the United Kingdom | L5 | N.1 | “Great Britain”
|                 |             | Ireland       | L1.7 | N.6 | Ireland          |
|                 |             | connected     | L5   | N.2 | included        |
|                 |             | in the same (peaceful) way | C15.1 | 0 | (S.7)
|                 |             | peaceful      | L5   | 0 | conflict         |
| 8               |             | However       | C21.3 | 0 | (S.8)
|                 |             | Ireland       | L1.8 | 0 | Ireland          |
|                 |             | government    | L1.8 | 0 | government      |
| 9               |             | So            | C31.1 | 0 | (S.9)
|                 |             | Northern      | L5   | 0 | southern        |
|                 |             | Ireland       | L1.8 | 0 | Ireland          |
|                 |             | joined        | L5   | 0 | connected       |
|                 |             | the United Kingdom | L1.6 | N.2 | England         |
|                 |             | Scotland      | L1.6 | N.2 | Scotland        |
|                 |             | Ireland       | L1.6 | N.1 | the United Kingdom |
| 10              |             | the countries | R23.6 | 0 | the Northern Ireland, England, Wales, Scotland
|                 |             | England       | L5   | 0 | four countries |
|                 |             | four countries | L5 | 0 | four countries |
| 9               |             | Scotland      | L5   | 0 | four countries |
|                 |             | different(2x) | L1.6 | 0 | different       |
|                 |             | systems       | L5   | 0 | institutions   |
| 11              |             | the four countries | R23.6 | 0 | the Northern Ireland, England, Wales, Scotland
|                 |             | England       | L1.6 | 0 | England         |
|                 |             | the four countries | L1.6 | N.1 | the four countries |
| 12              |             | The(2x)       | R23.6 | 0 | three zones    |
|                 |             | zone(2x)      | L1.7 | 0 | three zones    |
|                 |             | called        | L1.9 | N.4 | called         |
|                 |             | the Midlands  | L1.6 | 0 | the Midlands   |
|                 |             | the North     | L1.6 | 0 | the North      |
|                 |             | England       | L1.6 | 0 | England        |
|                 |             | Scotland      | L1.6 | N.1 | Scotland       |
| 13              |             | find          | L1.6 | N.9 | find           |
|                 |             | the south     | L1.6 | 0 | the South      |
|                 |             | the Midlands  | L1.6 | 0 | the Midlands   |
|                 |             | the North     | L1.6 | 0 | the North      |
|                 |             | England       | L1.6 | 0 | England        |
| 14              |             | these         | R21.6 | 0 | the industrial cities
|                 |             | cities        | L1.6 | 0 | cities         |
|                 |             | football teams | L1.6 | N.3 | football teams |
|                 |             | two           | L1.2 | N.3 | two            |
| 15              |             | find          | L1.6 | N.9 | find           |
|                 |             | the south     | L1.6 | 0 | the South      |
|                 |             | the Midlands  | L1.6 | 0 | the Midlands   |
|                 |             | the North     | L1.6 | 0 | the North      |
|                 |             | England       | L1.6 | 0 | England        |
| 16              |             | oldest(3x)    | R21.6 | 0 | the industrial cities
|                 |             | built         | L1.6 | N.3 | built          |
|                 |             | Romans        | L1.6 | N.3 | Romans         |
|                 |             | building      | L1.6 | N.1 | buildings      |
|                 |             | towns         | L5   | 0 | cities         |
| 17              |             | find out      | L1.6 | N.3 | find           |
|                 |             | British       | L5   | N.3 | England        |
|                 |             | history       | L5   | 0 | historical     |
| 18              |             | London        | L5   | 0 | British        |
| 19              |             | oldest(3x)    | R22.7 | 0 | older but smaller towns
|                 |             | built         | L1.6 | N.3 | built          |
|                 |             | Romans        | L1.6 | N.3 | Romans         |
|                 |             | buildings     | L1.6 | N.1 | buildings      |
|                 |             | towns         | L5   | 0 | cities         |
| 20              |             | historical    | L5   | 0 | history        |
| 21              |             | London        | L5   | 0 | British        |
| 22              |             | oldest(3x)    | R13.6 | M.1 | London
|                 |             | built         | L1.6 | N.3 | built          |
|                 |             | Romans        | L1.6 | N.3 | Romans         |
|                 |             | buildings     | L1.6 | N.1 | buildings      |
|                 |             | British       | L5   | N.3 | older          |
|                 |             | government    | L1.9 | N.11 | government    |
As it can be seen from the above histogram, among the five lexical cohesive devices, lexical cohesion appears 81 times which proved to be the most in the texts while reference, conjunction and ellipsis are much less, 11, 6 and 4 occurrences respectively. Substitution accounts for nothing without occurring.
**Dr Janice Foster**

**a natural phenomenon**

*All scientists* accept this view that the burning of fossil fuels... to produce energy.

So there is a rapid increase in the temperature of the earth. Although the burning of fossil fuels... to produce energy began only a few decades ago, carbon dioxide has increased over the last 100 to 150 years from 1957 to 1997. This increase...to produce energy has caused a rapid increase in the temperature of the earth. The increase...to produce energy from 1957 to 1997 has increased the temperature of the earth by up to 1.5 degrees Celsius or over 2 degrees Fahrenheit. It is interesting to note that this increase...to produce energy has resulted in the globe warming 0.7 degrees Celsius or 1.3 degrees Fahrenheit from 1957 to 1997.

The burning of fossil fuels... to produce energy has caused a rapid increase in the temperature of the earth. Although the burning of fossil fuels... to produce energy began only a few decades ago, carbon dioxide has increased over the last 100 to 150 years from 1957 to 1997. This increase...to produce energy has caused a rapid increase in the temperature of the earth. The increase...to produce energy from 1957 to 1997 has increased the temperature of the earth by up to 1.5 degrees Celsius or over 2 degrees Fahrenheit. It is interesting to note that this increase...to produce energy has resulted in the globe warming 0.7 degrees Celsius or 1.3 degrees Fahrenheit from 1957 to 1997.
temperature increase L1.6 N.5 temperature increase

Dr Janice Foster L1.6 N.11 Dr Janice Foster
over the next 100 years L5 N.4 from 1957 to 1997
amount warming L1.6 N.4 amount
degrees Celsius L1.6 N.10 degrees Celsius

However scientists this L2.6 0 the amount of warming
increase L1.6 N.3 scientists

Dr Foster temperature increases 5 degrees L1.6 N.1 Dr Janice Foster

She rise L1.9 N.2 rise

Dr Foster temperature increases 5 degrees L1.6 N.1 Dr Janice Foster

severe storms, floods, droughts, L2.6 N.1 catastrophe

famines, the spread of diseases, the disappearance of species

On the other hand are opposed to L5 0 agree
this view believe levels carbon dioxide in the air C15.2 0 (S.24)
L5 0 agree
R21.6 0 (S.24)
L4.6 0 there may be...of species
L5 0 think
L1.6 N.10 levels
L1.6 N.6 carbon dioxide
L2.6 N.8 in the atmosphere

They predict warming bad environmental consequences L1.6 N.1 predict
L1.6 N.5 warming
L5 N.1 severe storms, floods, droughts, famines, the spread of diseases, the disappearance of species

In fact Hambley carbon dioxide L1.6 N.1 George Hambley
carbon dioxide L1.6 N.1 carbon dioxide

More carbon dioxide R13.6 0

Greenhouse gases in the atmosphere L4.7 N.1 carbon dioxide
L2.6 N.3 in the air

amount carbon dioxide L1.6 N.9 amount
L2.7 0 Greenhouse gases

greenhouse gases the climate L1.7 0 Greenhouse gases
L1.6 N.6 the climate

global warming L1.6 N.3 warming
L1.6 N.16 global

that R22.6 0 (S.31)

Or C11.3 0 (S.32)
As it can be seen from the above histogram, among the five lexical cohesive devices, lexical cohesion appears 90 times which proved to be the most in the texts while reference secures the second place with 26 occurrences, but far less than the first one. Conjunction and ellipsis are even less, 8 and 2 occurrences respectively. Substitution accounts for nothing without occurring.

| Sentence number | No. of ties | Cohesion item          | Type | Distance | Presupposed item          |
|-----------------|-------------|------------------------|------|----------|---------------------------|
| 2               | 2           | work                   | L5   | 0        | job                       |
|                 |             | the world              | L1.6 | 0        | the world                 |
| 3               |             | working                | L1.6 | 0        | work                      |
| 4               |             | job                    | L5   | 0        | working                   |
| 5               |             | However                | L1.6 | 0        | (S.4)                     |
|                 |             | my job                 | L1.6 | 0        | my job                    |
|                 |             | people                 | L1.9 | N.1      | people                    |
| 6               |             | volcanologist          | L5   | 0        | volcano                   |
|                 |             | working                | L5   | 0        | job                       |
|                 |             | Volcano Observatory   | L1.6 | 0        | volcano                   |
| 7               |             | My job                 | L1.6 | N.1      | my job                    |
|                 |             | volcanoes              | L1.7 | 0        | Volcano                   |
|                 |             | Hawaii                 | L1.6 | 0        | Hawaiian                  |
| 8               |             | collected              | L1.6 | 0        | collecting                |
|                 |             | information            | L1.6 | 0        | information               |
|                 |             | volcano                | L4.6 | 0        | Mount Kilauea             |
| 9               |             | work                   | L2.7 | N.1      | job                       |
|                 |             | people                 | L1.6 | N.3      | people                    |
|                 |             | the                    | R23.6| 0        | lava from the volcano     |
|                 |             | lava                   | L1.6 | 0        | lava                      |
| 10              |             | Unfortunately          | C21.3| 0        | (S.9)                     |
|                 |             | their                  | R14.8| 0        | people                    |
|                 |             | homes                  | L2.6 | 0        | houses                    |

| Sentence number | No. of ties | Cohesion item | Type | Distance | Presupposed item |
|-----------------|-------------|---------------|------|----------|------------------|
| 11              |             | boiling       | L5   | 0        | burned           |
|                 |             | volcano       | L1.7 | N.2      | volcano          |
|                 |             | earth         | L2.6 | 0        | ground           |
| 12              |             | This          | R21.6| 0        | (S.11)           |
|                 |             | because       | C33  | 0        | (S.11)           |
lives  Mount Kilauea  lives  Mount Kilauea  
fall   lava  the  mountain  causes  damage  path  molten  rock  
fall   L5   L1.6   L2.6   L5   L1.6   L2.6   L2.6   L1.6  
fall   N.2   N.4   0   N.1   N.1   N.2   N.1   0  
fall   Mount Kilauea  Mount Kilauea  
fall  crashed back  
fall  

13  However  eruption  C21.3  R23.6  L1.6  N.2  
13  eruption  When boiling rock...to earth  
13  erupts  

14  lava  the  volcano  
14  L5   R23.6  L1.6  N.1  
14  L1.6  0  N.2  
14  L2.6  N.1  boiling  
14  L1.6  0  rocks  
14  

15  Hawaii  
15  L1.6  N.7  
15  

16  worked  
16  L1.9  N.6  
16  

17  asleep  
17  L5  0  went to bed  
17  

| Sentence number | No. of ties | Cohesion item | Type | Distance | Presupposed item |
|----------------|-------------|---------------|------|----------|-----------------|
| 13             |             |               |      |          |                 |
| 14             |             |               |      |          |                 |
| 15             |             |               |      |          |                 |
| 16             |             |               |      |          |                 |
| 17             |             |               |      |          |                 |
| 18             |             |               |      |          |                 |
| 19             |             |               |      |          |                 |
| 20             |             |               |      |          |                 |
| 21             |             |               |      |          |                 |
| 22             |             |               |      |          |                 |
| 23             |             |               |      |          |                 |
| 24             |             |               |      |          |                 |
| 25             |             |               |      |          |                 |
| 26             |             |               |      |          |                 |
| 27             |             |               |      |          |                 |
| 28             |             |               |      |          |                 |
| 29             |             |               |      |          |                 |

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As it can be seen from the above histogram, among the five lexical cohesive devices, lexical cohesion appears 88 times which proved to be the most in the texts while reference secures the second place with 21 occurrences, but far less than the first one. Conjunction and ellipsis are even less, 3 and 1 occurrences respectively. Substitution accounts for nothing without occurring.

**III. ANALYSIS OF LEXICAL COHESION IN THE TEXTS**

After meticulous judging and taking notes of cohesive devices from the 5 texts, we can thus get the total amount of each cohesive device and their contrasts are made into the following table:

| Cohesive devices        | text 1 | text 2 | text 3 | text 4 | text 5 |
|-------------------------|--------|--------|--------|--------|--------|
| Corpus                  | Frequency | Frequency | Frequency | Frequency | Frequency |
| Reference               | 41      | 27      | 11      | 26      | 21      |
| substitution            | 0       | 1       | 0       | 0       | 0       |
| Ellipsis                | 2       | 0       | 4       | 2       | 1       |
| Conjunction             | 8       | 5       | 6       | 8       | 3       |
| Lexical cohesion        | 109     | 66      | 81      | 90      | 88      |

From the table above it is obvious that in texts in New Senior English for China Student’s Book 5 and 6, the use of lexical cohesion accounts for 72.3% of the total, the distribution of reference is 21%. Other cohesive devices are adopted less in the texts. For example, substitution and ellipsis are barely used.
A conclusion can be drawn that lexical cohesion plays a significant role in textual cohesion, especially in written texts. Therefore, a further study on lexical cohesion analysis of these texts is conducted, as is shown in table 6, 7, 8, 9 and 10.

### Table 3-2
**The Analysis Of Lexical Cohesion In Text 1**

|                  | identical | inclusive | exclusive | unrelated |
|------------------|-----------|-----------|-----------|-----------|
| Same item        | 50        | 5         | 5         | 2         |
| Synonym or near synonym (incl. hyponym) | 8 | 1 | 0 | 0 |
| Superordinate    | 3         | 0         | 1         | 0         |
| 'General' item   | 1         | 0         | 0         | 0         |
| Collocation      | —         | —         | —         | —         | 33 |

### Table 3-3
**The Analysis Of Lexical Cohesion In The Text 2**

|                  | identical | inclusive | exclusive | unrelated |
|------------------|-----------|-----------|-----------|-----------|
| Same item        | 34        | 2         | 2         | 5         |
| Synonym or near synonym (incl. hyponym) | 6 | 0 | 0 | 0 |
| Superordinate    | 0         | 0         | 0         | 0         |
| 'General' item   | 2         | 0         | 0         | 0         |
| Collocation      | —         | —         | —         | —         | 15 |

### Table 3-4
**The Analysis Of Lexical Cohesion In The Text 3**

|                  | identical | inclusive | exclusive | unrelated |
|------------------|-----------|-----------|-----------|-----------|
| Same item        | 44        | 3         | 3         | 2         |
| Synonym or near synonym (incl. hyponym) | 2 | 0 | 0 | 0 |
| Superordinate    | 0         | 0         | 0         | 0         |
| 'General' item   | 1         | 0         | 0         | 0         |
| Collocation      | —         | —         | —         | —         | 25 |

### Table 3-5
**The Analysis Of Lexical Cohesion In The Text 4**

|                  | identical | inclusive | exclusive | unrelated |
|------------------|-----------|-----------|-----------|-----------|
| Same item        | 51        | 3         | 2         | 2         |
| Synonym or near synonym (incl. hyponym) | 8 | 1 | 1 | 1 |
| Superordinate    | 0         | 0         | 0         | 0         |
| 'General' item   | 4         | 1         | 0         | 0         |
| Collocation      | —         | —         | —         | —         | 25 |

### Table 3-6
**The Analysis Of Lexical Cohesion In The Text 5**

|                  | identical | inclusive | exclusive | unrelated |
|------------------|-----------|-----------|-----------|-----------|
| Same item        | 48        | 2         | 0         | 8         |
| Synonym or near synonym (incl. hyponym) | 10 | 1 | 0 | 0 |
| Superordinate    | 0         | 0         | 0         | 0         |
| 'General' item   | 3         |           |           |           |
| Collocation      | —         | —         | —         | —         | 16 |
As it can be seen from the above histogram, among the five lexical cohesive devices, same item having reference that is identical occurs 227 times which proved to be the most in the texts while collocation secure the second place with 105 occurrences; synonym or near synonym including hyponym occurs 34 times on the third place, but far less than the first two. Same item having reference that is unrelated, inclusive and exclusive are even less, 18, 15 and 12 occurrences respectively. ‘General item’ having reference that is identical takes occurrences 11 times in the whole five texts. The rest of lexical cohesive devices accounts for almost nothing even with some of them never occurring.

IV. CONCLUSION

Probably the most striking feature of the texts is their lexical explicitness. This comes out especially in the reliance on lexical cohesion. The writer, we feel, does not trust the reader to do much coherence-construction, but seems to aim to enlarge the intended reader’s vocabulary by providing various new ways of expressing the same item. Given that the texts are from school textbooks for Chinese teenagers, this is perhaps understandable: the student readers almost certainly do not have the ability to make much sense of a fairly complex text whose coherence may largely depend on substitution or ellipsis.

In fact, these texts are also characterized as full of grammatical structures, the structural relations, especially within the sentence. Though cohesive relations may be found as well within a sentence as between sentences, cohesive ties between sentences stand out more clearly because they are the only source of texture. To distinguish one type of text from another, cohesive ties makes it possible to transcend the boundaries of the clause—that is, the domain of the highest-ranking grammatical unit (Halliday, 2004). However, this paper focuses on the analysis of non-structure cohesion across sentences, so the distinctive grammatical structure between the sentences of these texts is not described.

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