Strategies Used by Chinese Students of English in Constructing Clause and Rhetorical Relations of Text: A Study Based on a Sentence Reordering Activity*

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Abstract

This study investigated how advanced Chinese students of English construct clause relations when construing English texts. A deconstructed text was distributed in class to 42 graduate students of linguistics, who were required to organize the clauses into a conceivably good text. The result suggests that these students seemed to rely on explicit cohesive words (anaphoric references and repetitions) rather than meaning relations in text construction. They seemed to have difficulties in using cataphoric contextual information and the popular discourse pattern from general to specific. This study calls for an enhanced awareness of logico-semantic relations in teaching and learning text construction.

Key words: rhetorical/clause relations; reordering; text

1. Introduction

Research seems to have proved that it is the cumulative result of the interacting miscues used by non-native speakers of English in establishing clause or sentence relations (i.e., the misuse of syntactic incorporations, lexical discourse markers, tense/aspect and lexical specification) that causes the perception of discourse incoherence by native speakers (Tyler & Bro, 1992; Yang, 2006). However, detailed analysis is still needed, particularly into what

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discourse problems Chinese learners of English have in construing English texts and how they understand and interpret inter-clause relations and the rhetorical structure of text.

Researchers (Crombie, 1985; Halliday, 1985; Hoey, 1991, 2001; Mann & Thompson, 1978, 1988; Winter, 1971) have presented different interpretations and various classifications for the interrelatedness of text components from different linguistic perspectives. In order to focus on text relations at different hierarchical text levels, this study adopts the term \textit{clause relation} by Winter (1971) and Hoey (1991) to refer to micro or inter-sentential/clausal relations, and \textit{rhetorical relation} by Mann and Thompson (1978) to refer to macro discourse organizing relations at sentences or paragraph levels. Key terms related to the study are defined below.

\subsection*{1.1 Clause relations}
A clause relation refers to the interconnectedness of clauses and sentences, which is believed to be the shared cognitive process whereby we interpret (Winter, 1971, 1977) or create (Hoey, 1983) the meaning of a clause or group of clauses in the light of their adjoining clauses or group of clauses. Halliday (1985) regards this kind relation as the semantic relation or the discourse value of an utterance which may be defined in accordance with its significance or communicative function within a discourse. To put it another way, when we communicate through language, we do not do so by means of individual words or clauses or even of individual sentences. Rather, we communicate by means of coherent stretches of interrelated clauses and sentences, the meaning of each of which can be understood only in reference to the linguistic and situational context in which it occurs.

In accordance with Winter (1978), clause relations can be divided into two broad classes: \textit{logical sequence relations} and \textit{matching relations}. Logical sequence relations are relations between successive events or ideas, representing either progressive or regressive movements of judgment. Some common examples of logical sequence relations include \textit{condition-consequence}, \textit{instrument-achievement}, and \textit{cause-consequence}, which can be further classified as \textit{affirmation-reason} and \textit{denial-reason}, as the cause can be positive or negative. Other relations like \textit{situation-event}, \textit{situation-evaluation}, \textit{question-response}, \textit{time-sequence} and so on also belong to this category. Matching relations are relations where statements are matched against each other in terms of degrees of identicality of description. Examples of this are \textit{contrast} and \textit{compatibility}. The former includes \textit{contradiction}, \textit{hypothetical-real}, and \textit{denial-correction relations}, and the latter \textit{comparison}, \textit{alternative}, \textit{general-specific} and \textit{statement-exemplification} relations. In terms of the means to achieve clause relations, Hoey (1983, based on Winter, 1971) mentions three types of signals: \textit{subordination}, \textit{conjunction}, and \textit{lexicalization}. Lexicalization can be realized by \textit{repetition}, \textit{paraphrase} and \textit{interrogation}. Subordination, through subordinators, such as \textit{though} in the following example:

\begin{quote}
\textit{Though} the probability of living to old age has risen sharply, in quite a short time, the individual human life set by nature has remained much the same through most of recorded history.
\end{quote}
Sentence conjunctions are realized by those *conjuncts* such as *and* and *but*, as found in the following sentence:

> It had reached Europe by the 7th century, *and* was widely known there in the Middle Ages.

According to Hoey (1983), nearly all the clauses in a discourse contain some repetition, overt or covert, making them bound up in a chain. Each clause is expected to provide some new information, and each clause must designate its location in the continuum of clauses so that the new information it contains is easily and accurately absorbed by the reader/listener.

*Peter went red. He knew he had been silly.*

The word *he* in the above example indicates the repetition of the same reference, showing the two independent clauses in the relation of *cause-consequence*. In addition, Winter (1971) proposes another two approaches to clarify clause relations: *interrogation* by projecting monologue to dialogues and *paraphrase*. By questioning, we will get:

D: Peter went red.  
Q: Why *<did he go red>*?  
D: *<because>* He knew he had been silly.

By paraphrasing, we have:

> The reason for Peter’s going red was that he knew he had been silly.

To sum up, clause relations can be explicitly manifested by discourse markers (e.g., conjuncts, adjuncts), grammatical categories (e.g., subordination), lexical words (e.g., repetition) and also implicitly without any obvious signals, through paraphrase, by questioning or re-lexicalization. Language, whether spoken or written, can be considered as a platform where the producer and the receptor communicate, and the success of discourse depends largely on the interaction between the two, which in turn relies on the interpretability of the clause relations in discourse.

### 1.2 Rhetorical relations

According to the Rhetorical Structure Theory (RST) by Mann and Thompson (1978), text coherence is attributed principally to the presence of rhetorical relations, which are defined functionally, in terms of the effect the writer intends to achieve or the goals for which he or she sets out to create a text. RST, an analytical tool for text generation and perception, provides a framework for describing rhetorical relations among parts of a text or the relational structure of written monologues.

Typically an RST analysis starts by dividing a text into some minimal units of interest, such as independent clauses. Each such unit is then assigned a role, primarily
by linking parts of the text together using relations (i.e., *Antithesis, Background, Concession, Enablement, Evidence, Justify, Motivation, Preparation Restatement, Summary, Circumstance, Condition, Elaboration, Evaluation, Interpretation, Means, Cause, Result, Otherwise, Purpose, Solutionhood Un-conditional, Unless*), and by aggregating related parts into spans. Spans can then be linked to other units or spans, so that the text is connected together into a hierarchic structure. Most of the relations are asymmetric, linking a *nucleus* to a *satellite*. The largest span created in this manner encompasses the whole text.

2. Research Design and Material Analysis

In order to find out the discourse problems Chinese students face in construing English texts, especially how they interpret inter-clause relations and the rhetorical structure of text, an English text was split into separated sentences or clauses and put in a jumbled order. Forty second-year graduate students of linguistics from a large university in northern China were required in class to reorganize the sentences into a coherent text. They could either complete the task on their own or through negotiating with their classmates. Their work was collected in 30 minutes. Then several students were interviewed about the strategies they employed in doing this activity.

The text for the research was taken from *Technical document in the United States of America*, written by Dr. Kenneth T. Rainey (2004), dean and professor from South Polytechnic State University, who could be considered as a professional writer and experienced lecturer teaching professional writing to students at undergraduate and graduate levels. The text was composed of 12 clause complexes (or orthographic sentences), focusing on the increased interest of research on the area of technical communication in the U.S. in the last twenty years. The rhetorical and clause relations of the text can be illustrated in Table 1.

### Table 1. Analysis of the rhetorical and clause relations of the text

<table>
<thead>
<tr>
<th>No</th>
<th>Text contents</th>
<th>Rhetorical relations</th>
<th>Clause relations &amp; signals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Technical communication in the US from its <strong>beginning</strong> has conducted formal research, and the level of research activity has grown steadily over the last twenty years.</td>
<td>N <strong>formal research</strong></td>
<td>Compatibility: Conjunction: <em>and</em> Lexical repetition: <em>research</em> Lexical signal: <em>beginning</em></td>
</tr>
<tr>
<td>2</td>
<td>The first known doctoral research in technical and professional communication occurred in the 1938 dissertation <em>A Study of Courses in Technical Writing</em> by Alvin M. Fountain.</td>
<td>S <strong>Interpretation</strong></td>
<td>Time-sequence: Conjunction: <em>first, next</em> Lexical repetition: <em>dissertation, research</em> <strong>dissertations</strong> Study dissertations</td>
</tr>
<tr>
<td>3</td>
<td>The next study, as far as is known, was a 1965 dissertation by Harold Burton Simpson <em>A Descriptive Analysis of Scientific Writing</em>, produced at the University of Michigan.</td>
<td></td>
<td>Chronological time: 1938, 1965, 1990</td>
</tr>
</tbody>
</table>
| 4  | Rainey and Kelly found 170 **dissertations** at 74 institutions in their initial study of research from 1965 to 1990. | | }
The illustrated rhetorical relations of the text in Table 1 suggest that the first sentence of the text is the nucleus or topic sentence, stating that the writing will introduce the extent technical communication research has gone to in the last 20 years. The rest of the text is the satellites, interpreting or elaborating the topic. The text is roughly done from three perspectives: doctoral research interest, the establishment of the doctoral programs and the diversified ways of doing the research.

In the experiment as mentioned previously, the text was destructed by sentences and put in random order. The students were then asked to organize the sentences into a meaningful text. Below is the task sheet of the text deconstruction, where directions and contents for text organization are given.
The following are 12 sentences taken from an introductory book on American Technical Communication programs. The sentences are in a jumbled order. Please rearrange them in a logical way so that the sentences can form a well-organized passage (using connectives if necessary).

1. According to a recent review of TC doctoral research, there were 20 institutions in the U.S offering doctoral programs in technical communication, up from 13 such institutions in 1992.
2. The number of the U.S. technical communication programs virtually quadrupled between 1985 and 2001 and has continued to grow since then.
3. The first known doctoral research in technical and professional communication occurred in the 1938 dissertation “A survey of courses in Technical writing” by Alvin M. Fountain.
4. And each year since then new doctoral-level programs have been announced at major institutions.
5. The focus of the research being conducted ranges across a broad spectrum, including such diverse topics as document and information design, methods, and tools, international communication, and studies of the profession itself.
6. Rainey and Kelly found 170 dissertations written at 74 institutions in their initial study of research from 1965 to 1990.
7. Formal research takes several different forms in the U.S—empirical studies such as formal experiments; surveys, questionnaires, and interviews; ethnographies, case studies, and focus groups.
8. The next study, as far as is known, was a 1965 dissertation by Harold Burton Simpson “A descriptive analysis of scientific writing,” produced at the University of Michigan.
9. The increase in the number of academic programs in the U.S has no doubt in part fueled this growth.
10. Technical communication in the U.S from its beginning has conducted formal research, and the level of research activity has grown steadily over the last twenty years.
11. There are also other forms of formal inquiry such as theoretical and historical studies.
12. This development might suggest that TC has witnessed a remarkable increase of research in technical communication in the U.S and will expand quickly across international boundaries to the whole world.

Actually, the deconstructed text falls into 3 important meaning groups: 1) the development of interest in formal research with doctoral dissertations (3-8-6), 2) the increase of doctoral academic programs in teaching institutions (9-2-1-4), and 3) doctoral formal research methods (7-11-5), apart from the text beginning (10) and ending (12), and the key to the test should be 10-3-8-6-9-2-1-4-7-11-5-12.

3. Results and Discussion

The result from the reordering activity reveals that Chinese writers of advanced proficiency seem not to have much difficulty in recognizing the nuclear and the satellites of the text, with
85% and 95% of the participants choosing the right opening and ending clauses respectively.

In terms of the inter-clause relations, as shown in Table 2, only 17 students found the correct order of 7, 11 and 5, occupying 42.5% of the total, 15 found the right sequence of 3, 8 and 6, accounting for 37.5%, and six for 9, 2, 1, and 4, taking up 15% of the total. Six students preferred the sequence of 10, 7, 11, 5, 3, 8, 6, 9, 2, 1, 4, 12, taking up 15% altogether. None of the testees found the correct sequence of the original text (e.g., 10, 3, 8, 6, 9, 2, 1, 4, 7, 11, 5, 12).

Table 2. Frequency and percentage of text reconstruction by meaning groups

<table>
<thead>
<tr>
<th>Meaning group</th>
<th>Number of person</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning (10)</td>
<td>34</td>
<td>85</td>
</tr>
<tr>
<td>Ending (12)</td>
<td>38</td>
<td>95</td>
</tr>
<tr>
<td>7-11-5</td>
<td>17</td>
<td>42.5</td>
</tr>
<tr>
<td>3-8-6</td>
<td>15</td>
<td>37.5</td>
</tr>
<tr>
<td>9-2-1-4</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>10-3-8-6-9-2-1-4-7-11-5-12</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 2 seems to suggest that the students had many problems with recognizing inter-clause relations, as the results from the reordering of the three meaning groups are not very encouraging, with the highest score of 42.5% and the lowest 15% and no one correctly reorganized the whole text.

There are grouping tendencies, though incorrect, that may reveal strategies that are popularly used by Chinese students of English. They are indicated in Table 3.

Table 3. Other tendencies of reconstruction by incorrect groupings

<table>
<thead>
<tr>
<th>Incorrect grouping</th>
<th>Number of person</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-7-11-5</td>
<td>25</td>
<td>62.5</td>
</tr>
<tr>
<td>1-2-9</td>
<td>11</td>
<td>27.5</td>
</tr>
<tr>
<td>10-7-11-5-3-8-6-9-2-1-4-12</td>
<td>6</td>
<td>15</td>
</tr>
</tbody>
</table>

Generally, the strategies used by the students in recognizing inter-clause relations in text might be summarized as follows.

1) Relying on seemingly lexical repetition rather than logical meaning relation

Twenty-five students (62.5%) selected the order of 10-7-11-5. S10, however, does not have any relation with S7, though they share the same words _formal research_. Look at the sentences below:

10. (a) Technical communication in the US from its beginning has conducted _formal research_, and (b) _the level of research activity_ has _grown steadily over the last twenty years._
7. Formal research takes several different forms in the US—empirical studies such as formal experiments, surveys, questionnaires, and interviews, ethnographies, case studies, and focus groups.

Although S7 shares the same phrase formal research as S10, the two sentences are not related because they are separated by another clause in between. In fact, they are talking about two unrelated events as shown in the boldfaced parts. The formal research and the growth in the last twenty years in S10 presuppose in the next sentence the continuation of how or in what way(s) the formal research has been done and what growth can be found in this period of time. However, S7 does not mention anything about the growth or the ways but raises another topic takes several different forms. Thus it is obvious that the two sentences do not contribute to the same topic, and they share nothing in meaning relation either.

Another example, which might illustrate the same point that student rely on explicit lexical signals rather than implicit meaning relations, is the section formed by 9-2-1-4, which seems to be the most problematic part to students, as only 15% of all the subjects got the correct order. Consider S9:

9. The increase in the number of academic programs in the U.S. has no doubt in part fueled this growth.

The difficulty might lie in the change of thematic pattern in S9, where the new information is academic programs, needs cataphoric contextual information. Cataphoric reference might need more effort in text comprehension than anaphoric references (Yang, 2006). This is particularly true for Chinese learners of English because the source information in English is usually taken as a further proof or evidence for the statement, thus coming later than the statement, while in Chinese the validity of a statement usually comes before the statement (Yang, 2011).

2) Relying more on particular-general rather than general-specific rhetorical pattern

The result seems to show that the students seem not accustomed to sequencing ideas with one of the most popular English discourse patterns general-specific (McCarthy, 1994) (and its variables as statement-elaboration and topic-particular), as is shown with the construction of 9, 2, 1, and 4:

9. The increase in the number of academic programs in the U.S. has no doubt in part fueled this growth.

2. The number of the U.S technical communication programs virtually quadrupled between 1985 and 2001, and has continued to grow since then.

1. According to a recent review of TC doctoral research, in 1998 there were 20 institutions in the US offering doctoral programs in technical communication, up from 13 such institutions in 1992.
4. And each year since then new doctoral-level programs have been announced at major institutions.

Clearly, S9 is a presentational statement which contains information that needs evidence to prove; that is, the number of academic programs in the U.S. needs elaboration either in the preceding text or the following part. S2, S1, and S4 are particular instances to illustrate the number of academic programs. However, these sentences of specific examples are not equal in status. S2 mentions the general situation of the development of academic programs in institutions, and S1 and S4 are confirmations or elaborations of the proposition stated in the previous sentence.

However, only six students out of 40 (taking up 15% of the total) got the right answer, leaving the rest using various ways in construing the text. Tendencies do occur which might show some evidence that Chinese writers of English are not accustomed to organizing ideas in a deductive way as supposed to be important to English writings. Eleven students claim that S1 and S2 should proceed S9 (amounting to 27.5%), which suggests that they seem comfortable in using a particular-general pattern rather than the opposite.

3) Relying on explicit rather than implicit discourse signals

From the general tendencies of the students’ choices in text construction and the follow-up interviews with some of the students for their particular strategies used in reordering sentences or recognizing clause relations, it is found that students rely mostly on explicit signals (e.g., discourse markers, repetition of the same words, time signals) rather than on implicit meaning relations. Indeed, words like beginning, suggest and will are good signposts indicating text beginnings and endings. Time sequence signals, 1938, 1965, 1990, first and next are also reliable references to arrange sentence orders. Lexical repetitions such as research—research, program—program, and research—inquiry can also be taken as traceable signs to topic development.

However, when these overt signals do not exist, the students would feel confused, especially when faced with several general sentences simultaneously, as to what should be the first and what the second. They were almost unaware of meaning or functional relations. This seems proved by the 15% choice of the general organization of the text (10-7-11-5-3-8-6-9-2-1-4-12), where S10 should not be connected with S7, nor S3 with S8, though the first two share the words formal research and last two have related words ranges and first.

4. Conclusion

Although this small-scale study was limited to one text only, where the meaning of the text might need particular background knowledge to be fully comprehended, it does suggest that Chinese learners of advanced English might not seem to have much difficulty in recognizing the macro structure of the text but do have problems in organizing interclausal
relations, which actually affect effective cross-cultural communication (cf. Yang, 2006). When constructing sentences, the students seem comfortable in using basic cohesive devices such as lexical repetition and discourse signals. They seem seldom comfortable using logical meaning relations between sentences or groups of clauses, especially when cohesive words do not help or explicit cohesive devices are absent. Therefore, the most important and long-term goal of teaching discourse analysis to Chinese learners of English should be the teaching of the cognitive structuring model (e.g., general-specific, problem-solution, etc.) in construing English text. Further research might need larger corpora for analysis in order to prove some of the arguments presented in this paper.

References


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