

CHAPTER 3

METHODOLOGY

This chapter falls into four sections: (1) the targeted subjects; (2) the instrument; (3) the procedure; (4) the data analysis.

3.1 Subjects

The research focused on the coherence writing by vocational senior high school students. The participants were thirty-seven juniors in Applied English Section of Hsin-Chu Commercial Vocational Senior High School in Taiwan, having English as their major and taking such required courses as English speaking, English listening, English reading, and English writing. They were all 16 or 17-year-old native Taiwanese students. None of them stayed in English-speaking country for more than one month. All of them have Mandarin as their mother language and have studied English for at least four years. Two of them have passed the elementary level GEPT (General English Proficiency Test) and also the preliminary test of the intermediate level GEPT in Taiwan; twenty-nine have passed the elementary level GEPT; five have passed the preliminary test of the elementary level GEPT only, and the other one has not passed any form of English language proficiency test.

3.2 Instruments

To know if the translation exercises were effective for L2 learners to acquire cohesive devices in their writing, the present study was conducted by means of rating scale, analysis table, pre-test writing, translation exercises, post-test writing, and pre-test revision. Rating scale was a clear standard for two raters to evaluate coherence in the compositions. Analysis table served to count the number of cohesive devices used in participants' compositions. Pre-writing was implemented to present vocational senior high school students' coherence level and problems. Translation exercises were aimed to help students acquire cohesive devices so as to promote their coherence in writing. Post-test writing was used to measure the writing quality on coherence after students finished the translation exercise training. Pre-test revision was conducted to measure the degree of students' awareness of revising the incoherent part of their pre-test writing.

3.2.1 Rating Scale

The rating scale applied in this study was a modified version of ESL Composition Profile (Jacob et al., cited in Hadley, 1993, p. 346). The only feature of the scale was coherence, which was the focus of the study. There were four categories under the scale: excellent to very good (10-9 points), good to average (8-6 points), fair to poor (5-3 points), and very poor (2-1 points). Brief statements of criteria under each category were given in the rating scale table presented in Table 3.1.

Table 3.1 English Composition Coherence Rating Scale

Level	Score	Criteria
Excellent to Very Good	10-9	smooth flow of all the sentences; sufficient supporting statements to pinpoint the main idea; abundant connecting words to join related ideas; smooth transitions or contrasting in paragraphs
Good to Average	8-6	flat flow of all the sentences; with supporting statements to prove the main idea; with connecting words to join related ideas; proper transitions or contrasting in paragraphs
Fair to Poor	5-3	recognizable flow of all the sentences; insufficient supporting statements to illustrate the main idea; lack of connecting words to join related ideas; improper transitions or contrasting in paragraphs
Very Poor	2-1	blocked flow of all the sentences; no supporting statements to link the main ideas; no connecting words to join ideas; incorrect transitions or contrasting in paragraphs

3.2.2 Analysis Table

The development of analysis table was based on the five cohesive devices classified by Holliday and Hasan (1976) and the analysis of the sample texts presented in their study (Holliday and Hasan, 1976, pp. 340-355). Besides, the two major subclasses of lexical cohesion, reiteration and collocation, were also sorted out in the analysis. Although collocation is the most difficult type of cohesion to identify (Witte & Faigley, 1984), the cohesive items used in participants' compositions were classified according to the general principles of analysis suggested by Holliday and Hasan (1976). An analysis of one sample text in their study was presented in Appendix 1. Appendix 2 showed examples of the analysis of participants' compositions in this study. Table 3.2 is the analysis form of cohesive devices used in participants' compositions.

Table 3.2 Analysis of the Five Cohesive Devices Used in Compositions

	Reference	Substitution	Ellipsis	Conjunction	Lexical Cohesion (R/C)
S2	2-1 She& Alice				2-(previous text) Queen& Queen-R 2-1 wool& sheep-C
S3				3-2 again	3-1 Alice& Alice-R 3-2 looked& looked-R
S4	4-3 She& Alice				
S5	5-4 she& she				
S6	6-5 the (counter) & a shop			6-5 And 6-1 really & (so like a sheep)	6-1 sheep& sheep-R 6-5 counter& shop-C
S7	7-1 she& Alice 7-1 she& Alice 7-(previous text) more& than what follows 7-6 it& it				7-3 Rub& rubbed-R

* R: Reiteration; C: Collocation

** S1: sentence 1; S2: sentence 2; ...

*** 2-1: the tie between S2 & S1; 3-2: the tie between S3 & S2; ...

3.2.3 Pre-test Writing

The pre-test writing was intended to examine students' use of cohesive devices and writing coherence. Then, it would to be compared with the post-test writing by the end of the translation exercise. *English and I* and *Internet and I* were assigned as the pre-test topics for participants to do, because they are familiar to the participants. Since students' writing coherence was the only feature determined to be examined in this study, familiar topics would encourage students to fully develop English paragraphs. Their level of coherent writing would be more likely to be objectively examined.

3.2.4 Translation Exercises

The development of the exercises was based on the textbook in use this semester. The content and difficulty level was equivalent to participants' knowledge possession and language proficiency. English version paragraphs were composed first and then translated into Chinese paragraphs. Since English and Chinese languages featured different rhetorical structures and thinking patterns, each Chinese paragraph exercise was structured by the organization of coherent English writing paragraph so that students would not translate the Chinese paragraphs into incoherent English paragraphs. In the ten translation exercises, the five cohesive devices, i.e., reference, substitution, ellipsis, conjunction, and lexical cohesion (Holliday & Hasan, 1976), are all included, but do not appear in each exercise in equal proportion. That is, the frequency of occurrence for the five categories are not necessarily the same; reference, conjunction, and lexical cohesion may appear more frequently in written discourse than substitution and ellipsis, which occur more frequently in conversation (de Beaugrande & Dressler, 1981; Witte & Faigley, 1981).

The purpose of the translation exercises was to help participants acquire the five cohesive devices and then improve their coherence in writing. It was expected that they would develop better perceptions about English writing and learn to apply the devices in their writing. In fact, cohesive devices alone are not complete in evaluating coherence in written discourse; the writer's communicative purpose, the encoding medium, and the receiver's decoding and background knowledge should be further considered in written discourse (Witte & Faigley, 1981). Nevertheless, the unskilled learners would find it easier to achieve coherence in their writing after the acquisition

of the five cohesive devices.

3.2.5 Post-test Writing

The purpose of the post-test was to see if participants have acquired cohesive devices through translation exercises and improved their coherence in writing compared with their pre-test writing. The two topics of the post-test writing were the same as those in pre-test. This would avoid partial evaluation and ensure the validity of comparing participants' writing coherence.

3.2.6 Pre-test Revision

The purpose of the pre-test revision was to see if students could detect their improper application of cohesive devices and then remove or add some cohesive devices to achieve coherence. The results of the pre-test revision might further serve the purpose of reconfirming the results of post-test.

3.3 Procedure

The research procedure falls into two parts: teaching procedure and measurement procedure. Teaching procedure presents how the four steps of the research are processed: pre-test writing, translation exercise, post-test writing, and pre-test revision. Measurement procedure aims to clarify how the rating scale is drawn up and how scoring reliability is achieved.

3.3.1 Teaching Procedure

In the present study, the teaching procedure falls into four steps: pre-test writing, translation exercise, post-test writing, and pre-test revision. Pre-test writing is first conducted. Then, the totally ten Chinese-English paragraph translation exercises are provided periodically for the participants to do. Following the translation training is post-test writing. Finally, they are asked to revise their pre-test writing.

3.3.1.1 Pre-test Writing

This step was administered in the beginning of September of 2004. *English and I* and *Internet and I* were assigned as the pre-test topics for the 37 participants to develop, because they were familiar with the two topics and would be able to freely develop English paragraphs without draining their mind to strike out the content. The length of the composition was around 100 words or more.

Participants could use dictionaries or any other aids to facilitate their writing in the lexical, structural, or grammatical aspects. With these on an equal basis, the evaluation of coherence in their writing could be ensured.

The pre-test writing was the participants' weekend assignment. Participants were informed to do the homework in the beginning of this semester and hand in the two compositions two weeks later. Plenty of the time freed them from carelessly composing and organizing their ideas in a short period of time. They would have more chance to reread and revise their writing before handing it in. Their revision would not affect the evaluation of coherence because they were not proficient enough to improve their writing in the aspect of coherence at this point. And they were not informed which aspect of writing features would be focused on when their

compositions were scored.

After the seventy-four compositions were collected, they were scored by two experienced writing instructors, using a 10-point scale to evaluate the coherence in students' writing. The two raters were asked to discuss the rating discrepancies preceding the rating. This way, the chance of giving significantly different scores for the same composition could be lowered. Even if rating discrepancy did occur, the two graders were asked to negotiate and reach an agreement.

Finally, the distribution of the five cohesive devices applied in pre-test writing was presented in the discussion.

3.3.1.2 Translation Practice

This step was first administered in the middle of September of 2004. After taking the pre-test writing, the 37 participants were given one Chinese-English paragraph translation exercise to practice every week. The totally ten translation exercises (see Appendix 3) were designed based on the textbook in use so that the difficulty level would not go beyond students' English proficiency. All the exercises contained certain cohesive items for the participants to do, which helped develop their future writing in discourse perspectives.

The participants took the translation exercise as their regular classroom activity, which was designed as part of the usual instruction. In each translation exercise, word bank was provided to help participants do the exercise smoothly without racking their brains to figure out unfamiliar vocabulary or phrases. It was hoped that learners would not only focus their attention on lexical level, but direct their attention to the texture

of the paragraph and coherence. While doing the translation, participants were allowed to discuss with their classmates in class. Dictionaries, textbooks, or any other references could also be used. After finishing the exercise, they were asked to correct their translation exercises to make sure the learning was taking place. They were also asked to keep the exercise sheets till the end of this semester.

3.3.1.3 Post-test Writing

This step was administered in the middle of December of 2004 after the translation exercise came to an end. The 37 participants were asked to write the two topics the same as those in the pre-test again. To achieve the validity of comparing the results of the two tests, this writer assigned the same topics to avoid partial evaluation. With nearly three months' interval, their memory of the pre-test writing was vague. Thus, post-test writing would not be affected by the pre-test. Even if some of them remembered part of the content of their pre-test writing, it would not affect the evaluation of their writing coherence.

Like the pre-test writing, the post-test writing was the participants' weekend assignment. Dictionaries or any other aids were allowed to be used to process their writing. Each composition should be around 100 words. Participants were demanded to complete the two compositions two weeks later. They were informed neither which aspect of writing features would be focused on nor why the same topics were assigned.

The seventy-four compositions were collected and graded with a full score of 10 points from coherence discourse perspectives. Grammatical or lexical errors were

overlooked because the study was directed to the coherence in EFL writing. The writing materials were scored by the same writing graders in the pre-test. A table displaying the distribution of the five cohesive devices used in the post-test writing was presented in the discussion.

3.3.1.4 Pre-test Revision

This step was administered in the end of December of 2004. Participants were asked to revise their two pre-test writing paragraphs. They could use any kind of aids to do the revision. The assignment was to be done at home, but they were not informed to focus on coherence or cohesive devices. Students felt free to do any aspect of revision. However, they were asked not to do rewrite so that the pre-test revision could serve to test the third and fourth hypotheses in the present study. The two revised pre-test compositions were required to be handed in two weeks later.

The seventy-four revised compositions were analyzed to see if participants were capable of detecting their improper use of the cohesive devices and thus removing them or adding new ones to achieve coherence in writing. Then, a statistical table showing participants' performance in coherence was presented in the discussion.

The syllabus of the eighteen-week teaching procedure in this study was listed in Table 3.3.

Table 3.3 Syllabus of the Teaching Procedure

Week	Date	Writing Assignment	Translation Exercises
Week 1	Sept. 4, 5	Pre-test Writing: English and I	
Week 2	Sept. 11,12	Pre-test Writing: Internet and I	
Week 3	Sept. 15		T1: Optimistic People Win the Game
Week 4	Sept. 22		T2: Some Languages May Disappear
Week 5	Sept. 29		T3: The Characteristics of a Realistic Person
Week 6	Oct. 6		T4: Sleeping Habit
Week 7	Oct. 13		Mid-term Exam: No Class
Week 8	Oct. 20		T5: Reading in My Life
Week 9	Oct. 27		T6: My Volunteer Work at the Downtown Library
Week 10	Nov. 3		T7: Genetic Engineering
Week 11	Nov. 10		T8: The Coming Thanksgiving Day
Week 12	Nov. 17		T9: Different People, Different Food
Week 13	Nov. 24		T10: What Women's Indirect Speech Means
Week 14	Dec. 1		Mid-term Exam: No Class
Week 15	Dec. 11, 12	Post-test Writing: English and I	
Week 16	Dec. 18, 19	Post-test Writing: Internet and I	
Week 17	Dec. 25, 26	Pre-test Revision: English and I	
Week 18	Jan. 1, 2	Pre-test Revision: Internet and I	

3.3.2 Measurement Procedure

The measurement procedure falls into two parts: rating scale design and scoring reliability test. The former part explains how the rating scale is worked out; the latter section demonstrates how the raters are tested to achieve scoring reliability.

3.3.2.1 Rating Scale Design

To evaluate the coherence level of pre-test, post-test, and pre-test revision compositions in this study, an English composition rating scale on coherence was needed. While the statements of each category were being drafted, definitions of coherence as discussed in 2.2 were included. Since there was no scale exclusively for evaluating coherence and coherence was subordinate to organization, criteria for organization category in several rating scales were adopted to meet the need of this study. *ESL Composition Profile* (Jacob et al., cited in Hadley, 1993, p. 346), *Composition Scoring Scheme* (Gaudiana, cited in Hadley, 1993, p. 344), *TEEP Attribute Writing Scales* (Weir, 1995, p. 160), and *The JECC Rating Scale* (Chen et al., 1992, p. 39) were referred to in the design of the scale applied in this study (see Appendix 4-7).

In *ESL Composition Profile* (Jacob et al., cited in Hadley, 1993, p. 346), the full score of organization is 20. The four levels and criteria statements are presented in Table 3.4.

Table 3.4 *ESL Composition Profile* (Jacob et al., cited in Hadley, 1993, p. 346)

Organization		
Score	Level	Criteria
20-18	excellent to very good	fluent expression; ideas clearly stated/supported; succinct; well-organized; logical sequencing; cohesive
17-14	good to average	somewhat choppy; loosely organized but main ideas stand out; limited support; logical but incomplete sequencing
13-10	fair to poor	non-fluent; ideas confused or disconnected; lacks logical sequencing and development
9-7	very poor	does not communicate; no organization or not enough to evaluate

In *Composition Scoring Scheme* (Gaudiana, cited in Hadley, 1993, p. 344), five levels are ranked in organization. The criteria statements are presented in Table 3.5.

Table 3.5 *Composition Scoring Scheme* (Gaudiana, cited in Hadley, 1993, p. 344)

Organization	
Level	Criteria
A	well organized paragraphs, use of clear topic and summary sentences, convincing, easy to follow
B	good evidence of structuring of paragraphs (perhaps an unwieldy use of patterns of organization)
C	some attempts at organization, but few topic, development, summary sequences
D	hard to follow, organization undermines intelligibility
E	no evidence of planning in structure of paragraphs

In *TEEP Attribute Writing Scales* (Weir, 1995, p. 160), cohesion category is a distinct category compared with the other three scales in this section. The full score of organization and cohesion are both 3. The four levels and criteria statements of the two features are presented in Table 3.6 respectively.

Table 3.6 *TEEP Attribute Writing Scales* (Weir, 1995, p. 160)

Feature	Score	Criteria
	0	No apparent organization of content.
<i>Compositional Organization</i>	1	Very little organization of content. Underlying structure not sufficiently apparent.
	2	Some organization skills in evidence, but not adequately controlled.
	3	Overall shape and internal pattern clear. Organizational skills adequately controlled.
	0	Cohesion almost totally absent. Writing so fragmentary that comprehension of the intended communication is virtually impossible.
<i>Cohesion</i>	1	Unsatisfactory cohesion may cause difficulty in comprehension of most of the intended communication.
	2	For the most part satisfactory cohesion though occasional deficiencies may mean that certain parts of the communication are not always effective.
	3	Satisfactory use of cohesion resulting in effective communication.

In *The JECC Rating Scale* (Chen et al., 1992, p. 39), four levels are ranked in organization. The criteria statements are presented in Table 3.7.

Table 3.7 *The JECC Rating Scale* (Chen et al., 1992, p. 39)

Feature	Rank	Criteria
組 織	優 3-4 分	有開頭、發展、結尾，轉成語使用良好，段落連貫，行文統一。
	可 2 分	有佈局，但要點安排不妥；開頭、發展、結尾比例不當；轉成語使用不好，以致行文不甚流暢。
	差 1 分	題意分散在各處，未能連貫發展，行文不流暢。
	劣 0 分	全文沒佈局，段落不連貫、不統一。行文不流暢，毫無組織可言或未按提示寫作。

Among the four scales, *ESL Composition Profile* (Jacob et al., cited in Hadley,

1993, p. 346) served as the basis of the rating scale applied in this study. The other three were also surveyed so that partial evaluation could be avoided while the rating scale was being worked out. The definitions of coherence referred to in 2.2 were also used to examine if the criteria statements of the four levels were appropriate. The feasibility and properness of the modified rating scale was then ensured. The scale was presented in Table 3.8.

Table 3.8 English Composition Coherence Rating Scale

Level	Score	Criteria
Excellent to Very Good	10 - 9	smooth flow of all the sentences; sufficient supporting statements to pinpoint the main idea; abundant connecting words to join related ideas; smooth transitions or contrasting in paragraphs
Good to Average	8 - 6	flat flow of all the sentences; with supporting statements to prove the main idea; with connecting words to join related ideas; proper transitions or contrasting in paragraphs
Fair to Poor	5 - 3	recognizable flow of all the sentences; insufficient supporting statements to illustrate the main idea; lack of connecting words to join related ideas; improper transitions or contrasting in paragraphs
Very Poor	2 - 1	blocked flow of all the sentences; no supporting statements to link the main ideas; no connecting words to join ideas; incorrect transitions or contrasting in paragraphs

3.3.2.2 Scoring Reliability Test

This section had two parts: pre-scoring and post-scoring. Pre-scoring reliability was processed before the whole teaching procedure was carried out; it was intended to

guarantee an agreed standard and the scoring reliability of the two raters. Post-scoring reliability was implemented after the teaching procedure was put to an end; it was meant to reconfirm the scoring reliability was achieved.

3.3.2.2.1 Pre-scoring Reliability

The two raters in this study had taught English for four to five years and had the experience of scoring English compositions. They were still teaching English in vocational senior high schools.

To ensure scoring reliability, the two raters were asked to examine the individual criteria of each level in the scale to see if ambiguous statements could be clarified and agreement on the standard could be achieved. After reaching consensus, they were given five sample compositions of different levels (see Appendix 8) to grade. The five compositions were arranged neither from high level to low one nor from low to high, which was aimed to exclude contrast effects when they scored the compositions. Intra-rater reliability was then confirmed. They were also demanded to check their respective scores of each composition to certify inter-rater reliability.

3.3.2.2.2 Post-scoring Reliability

The 74 pre-test, 74 post-test, and 74 pre-test revision compositions were typed and then printed out so that the unification of each composition format would facilitate the raters' scoring and the variation of longhand would not bother the raters. Participants' names were not provided on the sheet. All the pre-test and post-test compositions were arranged randomly, neither by different levels nor by student

number's order.

After all the scores given by the two raters were collected, Pearson product-moment correlation was used to examine if there was inter-rater reliability. The reliability on all the pre-test, post-test, and pre-test revision compositions is .842. The statistical result was shown in Table 3.9, indicating that the reliability was confirmed and there was no discrepancy between the two scores for each composition. The analytic score of each composition in this study was the mean of the two scores given by the raters.

Table 3.9 Correlation between the Two Scores Given by Two Graders

		Score 1	Score 2
Score 1	Pearson Correlation	1.000	.842**
	Sig. (2-tailed)	.	.000
	Number	222	222
Score 2	Pearson Correlation	.842**	1.000
	Sig. (2-tailed)	.000	.
	Number	222	222

Note: ** Indicates significant correlation at the .01 level (2-tailed).

3.4 Data Analysis

The analysis of participants' writing fell into three steps. First, the scores of the 74 pre-test and 74 post-test English compositions were analyzed by SPSS 10.0 for Windows. Paired-samples t-tests were used to test the first hypothesis in this study. Level of significance in this study was $\alpha = .01$. If participants made significant progress in the post-test, the first null hypothesis would be rejected.

Second, three tables were used to present the distribution of the types of the cohesive items and their frequency of occurrence in the pre-test and the post-test

compositions. If participants were found to better apply cohesive devices in post-test compositions, the second null hypothesis would be rejected.

Then, the scores of the 74 pre-test and 74 pre-test revision English compositions were also analyzed by SPSS 10.0 for Windows. Again, paired-samples t-tests were used to test the third hypothesis in this study. Level of significance in this study was $\alpha = .01$. This part was analyzed to see if participants were able to add some cohesive devices to achieve coherence or revise incoherent part in their pre-test writing as a whole. If participants made significant progress in the pre-test revision, this third null hypothesis would be rejected. The statistical result would be shown in a table.

Finally, three tables would show the distribution of the types of cohesive devices and their frequency of occurrence in the pre-test and pre-test revision compositions. This was to test the last hypothesis in this study. If participants could better apply cohesive devices to promote writing coherence in pre-test revision, the last null hypothesis would be rejected.