

Chapter Three

Methodology

The present study aimed to examine the effects of picture prompts on high and low achievers in senior high school. The research method comprised four parts. The first part described participants; the second part explained the instruments, including questionnaires, narrative writing tests and interviews. Then the third part presented the procedures and the fourth part was data analysis.

3.1 Participants

In the beginning of the current study, 200 twelfth-graders from five different classes in a public senior high school in Pingtung were mixed up and given a GEPT¹ (General English Proficiency Test) writing proficiency test. The purpose of the pre-test was to divide the students into different levels of groups. Based on the result of the test, the top 30% of the students was classified as high achievers while the bottom 30% as low achievers. A total of 108 students (49 males and 59 females) were finally selected as participants: 54 students classified as high achievers and 54 as low achievers. The participants' average age was 17. They were all native speakers of Mandarin and had received formal English instruction for at least six years. Only one student had ever gone on a study tour to USA. None of them had lived in an English-speaking country. The 54 high achievers were further divided into HA1 and HA2, and the 54 low achievers into LA1 and LA2. So there were 27 students in each

¹ GEPT (General English Proficiency Test) is a language proficiency test held in Taiwan to provide a fair, valid, and reliable gauge for each level of ability in English. It is divided into five levels and each level incorporates listening, reading, writing and speaking components. The level of the GEPT writing proficiency test administered in the present study was intermediate.

small group. To examine whether there was pre-existing difference in writing ability between the two groups of high achievers and between the two groups of low achievers, a *t*-test was further conducted.

Table 3.1

Mean Scores of HA1's and HA2's GEPT Writing Tests

<i>Group</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Std. Error</i>	
				<i>Mean</i>	
HA1	27	71.33	11.06	2.02	
HA2	27	71.0	11.40	2.08	

Table 3.1 shows the mean score of the GEPT writing proficiency test of HA1 was 71.33 and that of HA2 was 71.0.

Table 3.2

Comparison of Mean Scores of HA1's and HA2's GEPT Writing Tests

	<i>t</i>	<i>df</i>	<i>Sig.</i> (2-tailed)	<i>M</i>	<i>Std. Error</i> <i>Mean</i>	<i>95% Confidence</i>	
						<i>Interval of the</i>	
						<i>Lower</i>	<i>Upper</i>
HA1-HA2	.115	58	.909	.333	2.900	-5.472	6.138

*** $p < .001$

In Table 3.2, the data suggested there was no significant difference in the writing ability between HA1 and HA2 ($t = .055$, $p > .001$).

Table 3.3**Mean Scores of LA1's and LA2's GEPT Writing Tests**

<i>Group</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Std. Error</i>	
				<i>Mean</i>	
LA1	27	26.5	12.258	2.238	
LA2	27	26.0	11.552	2.109	

Table 3.3 shows that the mean score of the GEPT writing proficiency test of LA1 was 26.5 and that of LA2 was 26.0.

Table 3.4**Comparison of Mean Scores of LA1's and LA2's GEPT Writing Tests**

	<i>t</i>	<i>df</i>	<i>Sig.</i> (2-tailed)	<i>M</i>	<i>Std. Error</i> <i>Mean</i>	<i>95% Confidence</i>	
						<i>Interval of the</i>	
						<i>Lower</i>	<i>Upper</i>
LA1-LA2	.163	58	.871	.500	3.075	-5.656	6.656

*** $p < .001$

In Table 3.4, the data indicated there was no significant difference in the writing ability between LA1 and LA2 ($t = .163, p > .001$).

Since there was no pre-existing difference in the writing ability between the two groups of high achievers and between the two groups of low achievers, their writing performances could be used to compare in the current study.

3.2 Instruments

There were three kinds of instruments adopted in the current study, i.e., three sets of questionnaires, two types of narrative writing tests and interviews.

3.2.1 A GEPT Writing Test (as a Pre-test)

To assign 200 students to different levels of groups, the researcher conducted a GEPT writing proficiency test with two parts: translation and composition. The first part accounted for 40 points and the second part for 60 points. The total score was 100 points. In 40 minutes, students had to translate four Chinese sentences into English and compose an English paragraph of 120 words. No dictionary or reference was allowed during the pre-test session of the GEPT writing test (See Appendix 1).

3.2.2 Questionnaire I

This questionnaire was conducted to know the local senior high school students' background information such as their genders, ages, experience of living or studying in English-speaking countries and the years of learning English, excluding those who had ever lived or studied in English-speaking countries for a long time. In order to avoid potential problems in comprehension, the questions were written in Chinese (See Appendix 2). Questionnaire I was followed by the narrative writing tests.

3.2.3 Two Types of Narrative Writing Tests

After finishing Questionnaire I, the participants were administered two types of narrative writing tests with different prompts in the writing directions: the verbal prompt (VP) and the verbal-plus-picture prompt (VPP). The topic "a false alarm" used in Chiang's (2003) research was adapted since the topic was interesting, with the verbal prompt and the picture prompt rather imaginative. The verbal prompt was "On one very dark night, I went home alone from my friend's place. Everything looked so

scaring around me...” (See Appendix 3). The verbal-plus-picture prompt included the same verbal prompt used in the VP test and three pictures depicting the topic used in Chiang’s study in 2003 (See Appendix 4). For the purpose of comparing the effects of students’ writing with / without picture prompts, HA1 and LA1 took the VP test while HA2 and LA2 received the VPP test. After the narrative writing tests came Questionnaire II.

3.2.4 Questionnaire II

When finishing the narrative writing tests, all the participants were asked to fill out Questionnaire II, which was adapted from Chiang’s (2003) study. In Questionnaire II, there were seven questions with four answering items on the Likert Scale, namely, strongly agree, agree, disagree and strongly disagree. All 108 participants needed to fill out Questionnaire II after taking the narrative writing test. The purpose of this questionnaire was to investigate these participants’ attitudes toward English writing (See Appendix 5). In order to avoid potential problems in comprehension, the questions were written in both English and Chinese. The data from Questionnaire II were used primarily as a complementary source of information to confirm and supplement the results of the study. Besides Questionnaire II, there was Questionnaire III for HA2 and LA2 students.

3.2.5 Questionnaire III

Following Questionnaire II, HA2 and LA2 members continued to answer Questionnaire III. This questionnaire was adapted from Chiang’s (2003). The questionnaire was administered to investigate students’ attitude toward picture prompts and to see whether they benefited from picture prompts. There were seven questions, with four answering items each on the Likert Scale, namely, strongly agree,

agree, disagree and strongly disagree. In order to avoid potential problems in comprehension, the questions were written in both English and Chinese. The data from Questionnaire III were used primarily as a complementary source of information to confirm and supplement the results of the research (See Appendix 6).

3.2.6 Interviews

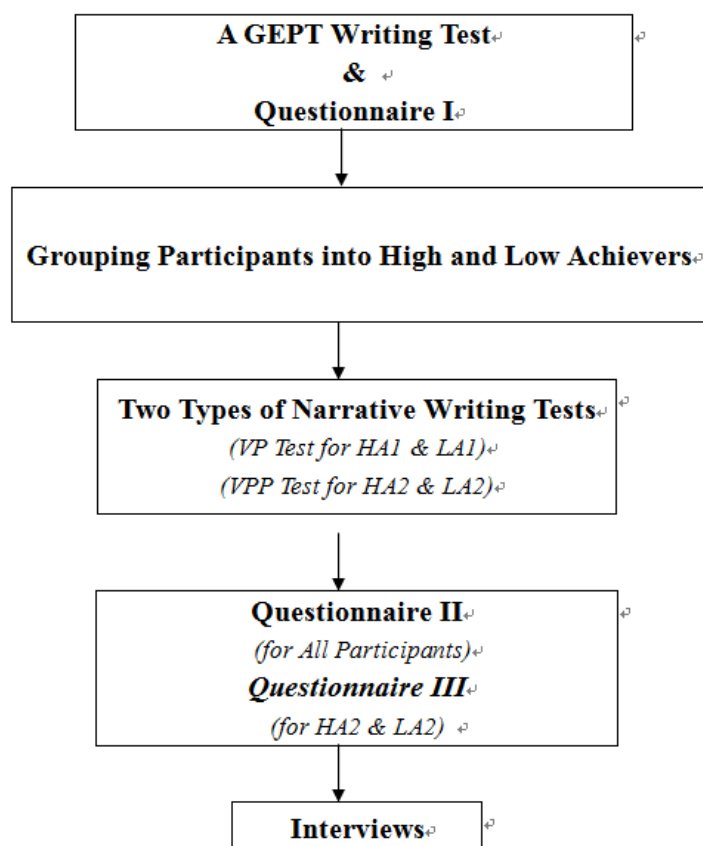
To get more in-depth responses from the students as well as to clarify the answers obtained from Questionnaire II and Questionnaire III, the researcher conducted about 30-minute group interviews with 5 subjects from HA2 and 5 from LA2 respectively, who were randomly selected as interviewees. Based on students' responses, the researcher asked follow-up questions in order to avoid any misunderstanding of the students' meaning. The purpose of the interviews was to get greater perspectives from the students on writing with verbal-plus-picture prompts and also to get their further responses on Questionnaire III regarding picture prompts. The interviews were conducted in Chinese and recorded by a digital video camera. The interview data were used primarily as a secondary source of information to confirm and supplement the results of the writing tests.

3.3 Procedures

The current study was conducted through five phases: a GEPT writing test and Questionnaire I; grouping participants into HA1, HA2, LA1 and LA2; Two types of narrative writing tests; Questionnaire II for all participants and Questionnaire III for HA2 and LA2 members; and finally interviews. The procedures of the study were summarized in Chart 3.1.

Chart 3.1

Research Procedure Chart



3.3.1 A GEPT Writing Test and Questionnaire I

200 twelfth-graders from five classes gathered together in a large classroom to take a GEPT writing proficiency test. There were two parts in the test: Part I Translation and Part II Composition. In Part I, students were asked to translate four Chinese sentences into English and that part accounted for 40 points. As for the second part, students were required to compose a paragraph of 120 words about their opinions of so many motorcycles in Taiwan and that part accounted for 60 points. The total score of pre-test writing was 100 points. Students were not allowed to use dictionaries or any references while taking the writing test. All the twelfth-graders had to finish the test in one session of forty minute. After the test, they filled out

Questionnaire I concerning their background information. The questions included their gender, age, the years of learning English, the experience of living in an English-speaking country and going on a study tour.

3.3.2 Grouping Participants into Two Levels

After taking the pre-test writing, 200 students were classified into different English levels according to the scores of the pre-test. The top 30% was classified as high achievers and the bottom 30% as low achievers. Finally, there were 54 high achievers and 54 low achievers. Next, the 54 high achievers and 54 low achievers were divided into four equal-sized small groups: HA1, HA2, LA1 and LA2. Namely, each small group had 27 members. T-tests in Table 3.2 and Table 3.4 indicated that there was no significant difference in the mean score of the pre-test writing between HA1 and HA2 and between LA1 and LA2. That means there was no pre-existing difference in the writing ability between the two high-level groups and between the two low-level groups.

3.3.3 Two Types of Narrative Writing Tests

In the participants' school, all twelfth graders had only two common classes in a week, so two types of narrative writing tests were administered one week after the pre-test writing to the 108 participants in a conference room. They were required to complete a paragraph with 120 words in a writing session of 40 minutes. The current study was conducted in a testing context, so no dictionary or reference was allowed in the process. Two types of narrative writing tests were conducted. The first type test with verbal prompt (VP test) "On one very dark night, I went home alone from my friend's place. Everything looked so scaring around me..." was administered to HA1 and LA1. Meanwhile HA2 and LA2 took the second type test with verbal-plus-picture

prompt (VPP test). Together with the verbal prompt used in the first type, three pictures depicting the topic were added in the writing directions. After the 40-minute writing session, the scores were analyzed and compared in Chapter Four.

3.3.3.1 The Rating Scale

The researcher adapted Chiang's (1999) scoring scheme which was a modified version of *ESL Composition Profile*, *The JCEE Rating Scale*, and *TEEP Attribute Writing Scales*. The rating scale fell into three categories: content, organization and vocabulary. There are four scales under each category: very good (3 points), average (2 points), weak (1 point), and very poor (0 points). Brief criteria for students' expected achievement were presented in Appendix 7. The overall writing performance score of students' compositions was the sum of the scores in each category. The two raters evaluated the writing samples according to the guidelines provided.

3.3.3.2 Inter-rater Reliability

The participants' writing tests were graded by two raters. The researcher was one rater and the other rater was one of the researcher's colleagues, an English teacher with six-year teaching experience. Each rater scored 108 pieces of narrative writing tests independently. The scores were measured using the rating scale in categories of content, organization and vocabulary. All the names of the participants on the sheets were sealed in advance to avoid any raters' personal preference or bias toward the students' prior performance. Before the formal grading, the two raters scored twenty writing samples to reach the consensus on the criteria of the evaluation. When disagreement occurred, the two raters discussed their judgments until they reached an agreement.

Table 3.5
Reliability of the Scores Given by Two Raters

	<i>Content</i>	<i>Organization</i>	<i>Vocabulary</i>
Cronbach's Alpha	.769	.933	.978

After the scores given by the two raters were collected, reliability was calculated. Cronbach's Alpha was used to examine if there was inter-rater reliability. Details of reliability in each category were shown in Table 3.5. In the three categories, Cronbach's α in content was 0.769, in organization 0.933, in vocabulary 0.978. The results indicated that the reliability was confirmed and there was no discrepancy between the two scores for the twenty samples.

Table 3.6
Correlation between the Overall Writing Performance Scores Given by Two Raters

		<i>Overall Writing Performance Score 1</i>	<i>Overall Writing Performance Score 2</i>
<i>Overall Writing Performance Score 1</i>	Pearson Correlation	1	.952*
	Sig. (2-tailed)		.013
	Number	20	20
<i>Overall Writing Performance Score 2</i>	Pearson Correlation	.952*	1
	Sig. (2-tailed)	.013	
	Number	20	20

Note: * Indicates significant correlation at the .05 level (2-tailed).

Moreover, Pearson product-moment correlation was used to determine if there was inter-rater reliability in overall writing performance scores. The overall writing performance score was the sum of the scores in the categories of content, organization and vocabulary. The analytic score was the mean of the twenty total scores given by each rater. The statistical result was shown in Table 3.6, indicating that the reliability in the overall writing performance was confirmed. The two raters were reliable in grading the compositions.

3.3.4 Questionnaire II and Questionnaire III

Questionnaire II and Questionnaire III were conducted to collect participants' responses to as well as attitudes toward the narrative writing tests. In the end of the narrative writing tests, all the participants stayed in their seats to fill out the response questionnaires. Questionnaire II consisting of 7 questions were administered to all participants. In order to make sure the students fully understand the questions on the questionnaire, the original questionnaire that students filled out was in both English and Chinese (See Appendix 5). The following are sample questions:

No.	問題敘述 Statements	1. Strongly Agree 非常 同意	2. Agree 同意	3. Disagree 不同意	4. Strongly Disagree 非常 不同意
1	I like English writing. 我喜歡英文寫作。				
2	I think English writing is easy. 我覺得英文寫作很容易。				
3	I think making up stories is fun. 我覺得自編故事很有趣。				
4	I think creative English writing is easy. 我覺得從事有創意英文寫作很容易。				

Besides Questionnaire II, HA2 and LA2 had to fill out Questionnaire III. The questionnaire was composed of 7 questions designed to investigate the participants' opinions about as well as attitudes toward picture prompts. Some sample questions are listed below:

No.	問題敘述 Statements	1. Strongly Agree 非常 同意	2. Agree 同意	3. Disagree 不同意	4. Strongly Disagree 非常 不同意
1	I think picture prompts are helpful in enriching the content of English compositions. 我覺得圖片提示有助於充實英文寫作的內容。				
2	I think picture prompts are helpful in organizing my English composition. 我覺得圖片提示有助於組織英文作文。				
3	I think picture prompts are useful in associating relevant vocabulary in English compositions. 我覺得圖片提示有助於英文寫作時聯想出相關的單字。				
4	I think picture prompts promote my attitude toward English compositions. 我覺得圖片提示有助於我對英文寫作的態度和動機。				

3.3.5 Interviews

In addition to Questionnaire II and Questionnaire III, follow-up group interviews were conducted. Based on students' responses to the questionnaires, the interviews aimed to further explore the students' more specific and detailed opinions and to avoid misinterpretation by the researcher. 5 participants were randomly selected from HA2 and LA2 respectively. So the total interviewees were 10. Interviewees from the

same group were interviewed together for 30 minutes. In each interview, students were invited to a conference room, and told the purpose of the interview. The interview was conducted in Chinese to alleviate their anxiety and encourage more response. Each interview was recorded by a digital video camera and used as a complementary source of information to confirm and supplement the results of the writing tests.

3.4 Data Analysis

There are two types of data analysis, the quantitative analysis and the qualitative analysis. In the quantitative analysis, the scores of 108 compositions were analyzed by SPSS 12.0 for Windows. The participants' writing components were examined, i.e., content, organization, vocabulary and overall writing performance. Paired-sample *t*-tests were performed to see whether the writing prompt had significant effects on high and low achievers. For example, a *t*-test was run on the mean scores of VP test of HA1 and of VPP test of HA2 in four categories to see if there were significant effects of picture prompts on their writing performance.

Moreover, the results from Questionnaire II and Questionnaire III were analyzed qualitatively to investigate students' feedbacks on writing with prompts and their attitude toward English writing. Finally, 5 participants from HA2 and 5 from LA2 were interviewed to have in-depth exploration of their feelings toward picture prompts.