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Graduate Institute of Linguistics

Master's Thesis

歸納及演繹法對台灣高職一年級英語學習者的
學習成效：

以翻譯學習上中英詞序不同的面相作為探討

The Effects of Inductive and Deductive Learning Among

First-year Vocational High School Learners of English in

Taiwan: A Study on the Word Order Differences Between

Chinese and English from the Aspect of Translation

指導教授：張郇慧 博士

研究生：詹迎婕 撰

Adviser: Dr. Hsun-huei Chang

Researcher: Ying-chieh Chan

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By
Ying-chieh Chan

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I still remember the motivation I had to apply for Institute of Linguistics of NCCU in my senior year in college. Besides my interest in the subjects related to linguistics, the other reason for me to dive into the field of linguistics is because of my passion for English teaching. I always expect myself to be an English teacher equipped with proficiency in linguistic knowledge and effective teaching strategies. With this goal in my mind, I was determined to do a study that can apply linguistic knowledge to English teaching for my master's thesis. Thanks to the opportunity I got in 2016, I was qualified for the position of an English teacher in LTCVS, Yilan and was granted the permission to study graduate courses in NCCU.

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論文名稱: 歸納及演繹法對台灣高職一年級英語學習者的學習成效:以翻譯學習
上中英詞序不同的面相作為探討

指導教授: 張郇慧 博士

研究生: 詹迎婕

論文提要內容:

在台灣現行的 108 課綱中，最新改版的英文課本在句型文法的單元中融入了「歸納式」的學習方法，本研究的目標是要實證傳統「演繹式」及新編入的「歸納式」兩種學習法對於學生在英文文法概念的學習成效，進而檢視新版教科書的改變對於英語學習者是否有正面的幫助。為了避免選擇題型中比較會出現的測驗智巧(test-wiseness)的情形，本研究採用「中英翻譯」作為測驗英語學習者「中英詞序」文法概念的方式。本研究的實驗參與者是 61 位一年級高職學生，其中 33 位是接受「歸納式」的文法教學引導，而另外的 28 位則是接受傳統的「演繹式」文法教學。為了要觀察兩組不同教學法的受試者在翻譯表現上的差異，結果的分析是採用獨立樣本及成對樣本的 t 檢定。整體而言，研究的結果顯示在牽涉到中英詞序不同的句型翻譯表現上，傳統「演繹式」及新編入的「歸納式」兩種學習法的效果並沒有顯著差異。此外，本研究也將進而探討「學習者的語言能力」以及「中英詞序不同的樣態」對於兩種教學法成效的影響。

關鍵字: 歸納、演繹、教學法、中英詞序

Abstract

Under the newly-implemented curriculum, the instruction of grammar knowledge has involved inductive approach as a new teaching and learning method in the latest versions of English textbooks. This research aims to attest the effects of both inductive and deductive instructions regarding the learning of grammar knowledge to figure out whether the change in the teaching reality has positive effect on EFL learners. To avoid test-wiseness in multiple tests, translation was adopted as the test on learners' grammar knowledge of Chinese-English word order differences. There were 61 first-year vocational high school participants involved with 33 receiving inductive instruction and 28 receiving deductive instruction. To observe the variance in translation performance among participants in the two groups, independent sample and paired sample t-tests were applied for the analysis. On the whole, the results indicated that there was no significant difference of translation performance under the two instructions. Participants' language proficiency and the types of Chinese-English word order differences were the two factors also discussed in details in this study to examine their interaction with the effects of the two instructional approaches.

Keyword: inductive, deductive, Chinese-English word order, instructional approach

Chapter I

Introduction

1.1 Motivation

Faced with the transition between outmoded and newly-implemented high school curriculum in Taiwan, many EFL instructors have observed an obvious change made in the section of grammar focus in the latest versions of English textbooks. In traditional versions used in the past, grammatical rules and sentence patterns are presented in an explicit way at the first place followed by related examples to refer to and then exercises to practice. In other words, EFL learners are taught in deductive approach under which they passively receive grammatical knowledge and memorize them by rote. However, many of them seem to have hard time internalizing the rules as well as patterns, and even applying them to forming sentences. With a view to improving EFL learners' competence in the application of language knowledge, new high school curriculum has embarked on involving inductive approach in EFL learning materials with the aim of putting more emphasis on a student-centered learning reality, which encourages students to be active learners and be able to apply what they have learned to solving problems in real contexts. Unlike deductive instruction of grammar in the traditional textbooks, the new inductive approach provides examples prior to the introduction of rules and patterns. Learners are

expected to observe example sentences and analyze possible rules as well as patterns by themselves. As what is arranged in the deductive approach, exercises come at the last section for learners to test their learning results.

With the involvement of inductive approach in the textbooks, EFL instructors are eager to know whether the change being made will have positive effect on EFL learners in terms of their learning of sentence patterns and grammatical rules. Thus, tests have to be given to learners to evaluate the learning results under either inductive or deductive instruction. When it comes to the types of test of grammatical competence, multiple choice questions and translations are the two common ways of assessment adopted in exams in the high-school teaching reality. However, in view of the fact that the results of multiple choice questions may be biased by test-wiseness, writing is comparatively more likely to reflect EFL learners' language competence since they are supposed to compose sentences on their own by demonstrating their knowledge of the language. In written assessment, there is less possibility of "guessing" that can help EFL learners without a certain degree of language knowledge come up with correct sentences. However, for students in the first year in a vocational high school, writing a passage or even an article will be a challenge due to their limited knowledge of vocabulary, sentence structures, and the organization of a piece of writing. Therefore, translations will have priority over other written forms for

practice or assessment since students are more willing to produce one single sentence at a time as what they are required.

According to the observance of high school EFL learners' works of writing, one difficulty that may interfere is about the change of the syntactic system from L1 to L2. EFL learners will often be hindered by the habit of verbatim translation, which appears to be a universal problem for many EFL learners in Taiwan as well—Chinglish. That is, EFL learners tend to translate and write an English sentence with Chinese syntactic structure, unable to be aware of the word order differences between Chinese and English, such as the position of place adverbs or manner adverbs. Moreover, they perform poor in the use of modifiers of nouns, like relative clause. The following sentences written by the third-year high school EFL learners provide the evidence of Chinglish writing errors.

- (1) *"I see in magazines this column."
- (2) *"I want roommates have three qualities."
- (3) *"I hope your child in daytime or afternoon play the violin."
- (4) *"I every night can listen to free concert in my house."
- (5) *"I know he is very serious practice, but so late practice will affect others to rest."
- (6) *"I have a problem confuse me for a long time."

From the writing output of high school EFL learners, what is known is that the awareness of the differences between the native and the target language also matters aside from the application of grammatical rules as well as sentence patterns in the target language. In order to enhance EFL learners' language competence, whether they can learn grammatical knowledge and have a successful transfer between their NL and TL in an effective way becomes a major concern for EFL instructors.



1.2 Purpose of Research

In view of the adoption of both inductive and deductive approaches in the currently-used textbooks under the newly-implemented curriculum, this thesis aims to draw a comparison between the two to ascertain their effects among EFL learners from the aspect of learners' learning of grammar knowledge and learners' competence of application in Chinese-English translation. Through learners' learning results, the effectiveness of deductive and inductive was explored. In that way, an effective adjustment can be made to the present teaching materials or instructional methods to help EFL learners facilitate their language learning process and make a promising improvement in their language proficiency.

1.3 Organization

The thesis is composed of six chapters. In chapter one, the motivation and research purpose are presented. Chapter two introduces the previous literature associated with the distinction between inductive and deductive learning, factors that might interact with the effectiveness of the two approaches, translation as a language learning assessment, and the differences in word order between Chinese and English. In addition, research questions are also listed in chapter two. Chapter three deals with research design, including the participants, teaching materials, testing, the procedure of instruction, and statistical techniques. Chapter four focuses on data analysis, while chapter five, the implications of the research results. Chapter six is the conclusion and issues for future research.

Chapter II

Literature Review

In this chapter, what will be presented are mainly four issues: the distinction between inductive and deductive learning approach in EFL course, the factors that might have impact on the effectiveness of the two approaches, the role of translation as an assessment in language learning, and the differences in word order between Chinese and English. Besides, the research questions were also presented in the end of this chapter.

2.1 The distinction between inductive and deductive learning approach

In terms of grammar teaching in an EFL class, a controversial issue having been debated for a long time is about the pedagogical method implemented in class. According to Thornbury (1999), grammar is taught mainly based on three approaches: rules, examples, and texts. Among the three, the first two have received the most attention. The approach emphasizing the presentation of rules is what is called deductive instruction, while the one stressing the exposure to examples is known as inductive instruction. The reason why teaching through texts is dropped is because that it requires the skills of understanding grammar in a natural context and correctly interpreting texts taken out of contexts, which might be a difficulty for beginners and elementary learners (Benitez-Correa et al, 2019). Therefore, for the purpose of

attending the learning condition of those primary learners or low achievers, only deductive and inductive approaches will be adopted in this research. When it comes to deductive and inductive instructions, the implementation of the former can be seen more often in traditional EFL classes where grammar translation method is applied. Deductive teaching had been adopted by instructors to explicitly teach grammatical rules followed by examples and practices. Winitz (1996) regarded explicit instruction of grammatical structures as a language learning process in which the rules of the grammar of L2 are learned as formal statements. This is still the process that EFL learners nowadays have often gone through in the section of grammar focus in the currently-used text books. On the other hand, Benitez-Correa et al (2009) indicated that in the class where inductive teaching is carried out, learners' awareness is emphasized due to the fact that learners are supposed to be exposed to examples of a particular structure in the target language and analyze examples to discover the grammar rules by themselves. Mallia (2014) indicated that inductive teaching is a bottom-up approach that gives learners greater responsibility for their own learning. In fact, there were many studies done in the past to ascertain the effectiveness of the two approaches, yet no consensus has been reached.

In previous research, some have found deductive approach more effective.

Mohammed & Jaber (2008) conducted a research studying the effects of using the two

instructions when active and passive voice is taught to Jordanian college students in an EFL context. The result showed that there was a significant difference in the learning performance of the deductive group. Negahdaripour and Amirghassemi (2016) also carried out a quasi-experimental study to compare the performances related to the fluent and accurate use of English tenses among Iranian EFL students under the two instructions. It was found that the deductive group outperformed in oral accuracy of the use of two English tenses, which implied that deductive approach had a more positive effect on EFL learners' grammar knowledge. Besides young EFL learners, Mallia (2014) carried out a research on adult learners in South Sudan, examining their learning of English grammar through the two instructions. The result showed that learners were strongly in favor of deductive approach for immediate language tasks and suggested that deductive approach with explicit grammar instruction be employed successfully with lower-level adult learners. There was also research studying the teaching of a grammar knowledge in a different language under the two approaches. Erlam (2003) explored the effectiveness of the two instructions on direct object pronouns in French as a second language among 14-year-old students in a secondary school in New Zealand. The research revealed that deductive instruction is considered more effective in a teacher-centered language learning classroom compared to inductive one.

On the other hand, as for the experiments supporting inductive instruction, Brown (2007) explained from the perspective of critical period indicating that young students are better at learning grammar structures from examples rather than learning them deductively. Benitez-Correa et al (2019) did a study with the purpose of testing two methods for teaching grammar in EFL high-school class in Ecuador and concluded that there was a significant difference in the scores in favor of the inductive group. In terms of the grammar knowledge in a different language, Herron and Tomasello (1992) found guided induction presentation superior to deductive instruction for the teaching of certain grammatical structures in French to beginning foreign language students.

Besides the studies advocating either inductive or deductive instruction, there were still others having found no evidence of significant differences between the two strategies for teaching grammar. For instance, Zamani & Mohammadi (2014) investigated the effectiveness of the two approaches in teaching grammar to Iranian EFL learners aged between 15-17 and got this result. Regarding the study in which the grammar knowledge in a different language is taught under the two approaches, Motha (2013) also indicated that there is little difference in the effects of the two approaches on the learning of case-marking in Polish among language learners with different age and native language. According to what have been mentioned above,

whether inductive or deductive instruction is more effective in EFL learning still remains inconclusive.

2.2 Factors that might interact with the effectiveness of the two approaches

As aforementioned, many studies have been done to compare the effectiveness of the two instructional approaches, yet no definite answer has been made. Among those studies, some of them had also discussed the factors that might have impact on the learning achievements of language learners under either inductive or deductive approach. In Ausubel (1964)'s research, the strategies for second language learning between adults and children were explored. What was indicated was that young learners were more likely to learn grammatical rules through inductive process by being exposed to multiform language patterns. Adults, on the other hand, tended to consider deductive approach of grammatical generalizations more efficient in second language learning. In this case, language learners' age and mental readiness for learning played a role in the effectiveness of the two approaches. Besides age, Ausubel (1964) and Carroll (1964) claimed that learners with higher intelligence could benefit from inductive learning more because they were more capable of patterns analysis and rules generation. However, there was little evidence provided to prove the phenomenon.

In Fischer (1979)'s study, it was the complexity of L2 grammatical structure

that influenced the learning outcome under either inductive or deductive approach.

Supported by learning transfer principle, inductive instruction was favored when the targeted grammatical structure in L2 was considered simpler since comparative references could be found in the rules of learners' native language and learners' innate more complex language competence in L1 could guide them to analyze the foreign language data as well as formulate appropriate rules. As for deductive approach, it was suggested to be used when L2 grammatical structures were dissimilar to or more complex than the rules in L1. Faced with the absence of corresponding rules in L1, learners tended to solely rely on the explicit explanation of grammar to achieve better comprehension. In the later studies conducted by Nagata (1997) and Wang (2002), consistent results were presented. Inductive approach was more effective on the learning of simpler grammatical patterns in Wang (2002)'s research, while deductive was favored in terms of the learning of more difficult grammar knowledge in Nagata (1997)'s.

However, in Shaffer (1989)'s study, results were found to be contrary to the findings above. Shaffer (1989) also addressed the issue that whether the effectiveness of the two approaches would vary with the variables of learners' ability and grammatical structures. The trend showed that inductive approach was favored by learners with all language ability levels regarding the learning of more difficult

grammar. In other words, Shaffer (1989) found that learners' ability has little to do with the effectiveness of the two approaches, which contradicted the assertion earlier made by Ausubel (1964) and Carroll (1964). Moreover, the relation between the complexity of grammatical structures and the effectiveness of inductive instruction turned out to be the opposite to that in Fischer (1979)'s study.

In more recent research, Chen & Shih (2008) indicated that high achievers in Taiwan learned more effectively under deductive instruction due to the fact that they were already used to explicit instructions in the EFL learning context, which conflicted with the findings of Ausubel (1964). For those less proficient learners, on the other hand, they were more open-minded to adapt themselves to different instructions. Concerning the factor of task complexity, there was no significant advantage found either in deductive or inductive instruction. In addition to learners' language proficiency and task complexity, gender was also a factor that was involved in the discussion of Chen & Shih (2008)'s study. What was disclosed was that gender had no significant influence on the effectiveness of either instruction. The same result was later proved by Pourmoradi & Vahdat (2016)'s study, in which another factor was also evaluated—learners' cognitive style. Pourmoradi & Vahdat (2016) classified learners into two kinds of cognitive style—field-independent (FI) and field-dependent (FD). When learners' cognitive style was adopted as a concern as well, the results

revealed that deductive approach was effective in the learning of grammar for both male and female learners regardless of their cognitive style. However, inductive learning was exclusively effective on female learners with FI cognitive style, while there was no significant effect found on male learners with the same cognitive style.

To conclude, there were several factors having been discussed about their significance of impact on the effectiveness of the two instructions. The factors included age, learners' language proficiency, the complexity of grammatical structures, gender, and learners' cognitive styles. However, no conclusion has been made in terms of their absolute influence on the efficacy of the two approaches. In the present study, learners' language proficiency and the complexity of grammatical structures were the two factors that would be analyzed to figure out their interaction with the two instructions so that more suitable teaching materials can be designed to meet learners' different readiness and more effective instructions can be provided to enhance the learning of different grammar knowledge in L2.

2.3 Translation as an Assessment in Language Learning

When it comes to EFL learners' language proficiency, output tests like writing and oral speaking tests are usually considered two feasible ways to evaluate language competence besides the input comprehension test, including listening and reading. In previous literature, many researchers have used writing as an approach for evaluation

since writing competence is a subset of learners' language competence that includes language-specific abilities like the use of a range of vocabulary and syntactic structures (Wolfe-Quintero, Inagaki, & Kim, 1998:2). Therefore the test on writing can reveal learners' development trajectory of language and show their weaknesses that need to be improved, which gives instructors the direction to meet the needs of learners and provide more effective guidance. To test EFL learners' writing proficiency, translation from L1 to L2 is one of them that is often applied in the assessment of an EFL class and standardized tests. Dagilienė (2012) claimed that translation is a tool that helps heighten language awareness through the focus on comparing and identifying differences in grammar, vocabulary, word order and other language points between learners' L1 and L2. For the first-year and second-year learners in high school especially, since most of them have little experience in writing paragraphs or even an article, translation tend to be a more accessible way for language learning.

2.3.1 Common English Writing Errors Made by EFL Learners

In previous studies, many researchers have already done the examination of the common errors in EFL learners' writings. Chang and Tsay (2007) pointed out the four main types of errors made by Taiwanese graduate students in their research papers, including faulty word choice and misuse of collocation, misuse of articles, misuse of

verb forms, and awkward sentences. Ching and Darus (2009) analyzed and categorized the errors from the essays of Chinese students in seventh grade in Malaysia into four most common ones. They were mechanics, tenses, preposition, and subject-verb agreement. Zheng and Park (2013) classified errors of English writings from Chinese university students into misformation, omission, addition, and other categories. Wu and Garza (2014) explored major writing problems from sixth grade EFL learners and found that errors could generally fall into four types: grammatical, lexical, semantic, or mechanical errors. Lahuerta (2018) found that syntactic categories of writing errors, such as subordination and word order, remain problematic areas for both upper intermediate and advanced students. To sum up, the errors of English writings seem to be related to four aspects: (1) misuse of words (2) unfamiliarity of grammatical rules (3) ill form of syntactic structures (4) lack of mechanical knowledge.

2.3.2 L1 Interference in EFL Learning

Besides identifying the common errors of English writings from EFL learners, researchers also have an attempt to figure out the reasons contributing to these phenomena. Chang and Tsay (2007) claimed that one can infer EFL learners' process of learning and the influence of their first language from each error. Therefore, the influence of the first language, which is defined by Dulay et al. (1982) as the mother

tongue (L1) interference, is acknowledged as a factor that causes EFL learners to write awkward sentences in the target language. They also pointed out the fact that many students tend to translate words of sentence patterns directly from Chinese without checking the words' precise meanings and following the grammatical rules. Timma (2013) also endorsed this argument by indicating that learners very often use the rules and structures of Mandarin Chinese or their dialect in their communication in English. Dipolog-Ubanan (2016) proved the phenomenon by interviewing 10 participants from mainland China studying in English Language and Communication (ELC) Department at UCSI and found that learners had been aware of the interference of their first language on their writing in English, and aware of their tendency to translate from their L1 to English when writing in English. It is obvious that the interference in language learning can be partly reflected by learners' writing production.

2.4 The Differences in Word Order between Chinese and English

Basically Chinese and English share an unmarked subject-verb-object (SVO) word order. However, they still appear different from each other in some particular syntactic structures. Li (1998) specified that a noticeable difference between the two languages is the position of modifiers. In Chinese, modifiers are always placed before nouns whereas those in English are usually placed after nouns if they are in the form

of prepositional phrases, adverbs denoting place, time, or manner, relative clauses, or the of-genitive rather than individual descriptive words. In previous research, Liu (1979) used mirror image phenomenon to indicate that Chinese and English present opposite word order to express the same meaning. Weng (2002) classified mirror image phenomenon into four categories based on Liu (1979)'s thesis—modifiers of nouns and verbs, existential and passive sentences. The following classification of types of Chinese-English word order differences are adapted from Weng (2002)'s study, which has become the main reference for the design of the teaching materials in this study in order to help Taiwanese high school EFL learners understand Chinese-English word order differences in a clear way and provide an organized teaching focus for EFL instruction.

2.4.1 Modifiers of nouns

The differences between Chinese and English are mainly caused by the position of modifiers. Premodification is used in Chinese and postmodification is used in English. Weng (2002) mainly categorized modifiers of nouns into two types. One is the of-genitive and the other is relative clause. In terms of the of-genitive, mirror image occurs when the noun precedes it in English, which is the reversed order of syntax in Chinese. For example,

(1) a. “一年的 第一個月”

A B

b. “the first month of the year”

B A

With regard to relative clause, it appears before the noun it modifies in Chinese, but in English, mirror image phenomenon occurs when the clause follows the noun.

For instance,

(2) a. “我剛吃的 蘋果 很甜。”

A B

b. “The apple I just ate is so sweet.”

B A

In this study, modifiers in the form of prepositional phrases and *with* phrases are to be included in the discussion as well. The explanation will be presented in the chapter of methodology.

2.4.2 Modifiers of verbs

According to Liu (1979), modifiers of verbs can be put into three categories: time, space, and manner adverbs. As to the feature of time, mirror image phenomenon occurs when the activity is not carried out in a continuous way or in every point in a period. That is, the modifier of verb will be preverbal in Chinese in that context. However, in English, the time adverb will be put after the verb it modifies regardless of the time duration the activity is performed. For example,

(3) a. “他 一個月 看一次電影。”

A B

b. “He goes to the movie once a month.”

B A

formed. In most cases, manner adverbs are placed before verbs in Chinese, but after verbs in English, which corresponds to mirror image.

For example,

(5) a. “他 辛勤地 工作。”

A B

b. “He works hard.”

B A

Existential sentences

Existential verb *you* in Chinese and *there be* in English share the same meaning, referring to the existence of an indefinite subject. In Chinese, the

- (5) a. “他 辛勤地 工作。”
A B
b. “He works hard.”
B A

2.4.3 Existential sentences

The existential verb *you* in Chinese and *there be* in English share the same function of referring to the existence of an indefinite subject. In Chinese, the time or locative adverbs are usually put in the initial position of existential sentences to indicate the time or the place of the existence, and mirror image phenomenon occurs when those adverbs are put after *there be* syntactic structure in English. For example,

- (6) a. “今天 有一個會議。”
 A B
 b. “There is a meeting today.”
 B A

2.4.4 *Passive sentences*

In Chinese, the *bei* phrase denotes the occurrence of an event with the passiveness of the patient, theme, or the experiencer. Mirror image phenomenon occurs when the agent that initiates the event is mentioned. In Chinese the *bei* phrase indicating the agent appears in front of the verb, while the *by* phrase in English is postverbal. For instance,

- (7) a. “窗戶 被小男孩 打破了。”
 A B
 b. “The window was broken by the little boy.”
 B A

2.5 *Summary of literature review*

Based on the discussion of the previous research stated above, the two instructional methods, widely known as the rule-driven deductive approach and the rule-discovery inductive approach, have received much attention in EFL teaching reality. In light of the inconclusiveness of the studies on the two approaches as well as the promotion of student-centered inductive learning in the current teaching reality in Taiwan, the effectiveness of the two methods has become the primary concern for language instructors, and EFL learners’ learning outcome is regarded as the reference.

Besides, several factors, including age, learners' language proficiency, the complexity of grammatical structures, gender, and learners' cognitive styles, have been analyzed in previous studies as well to discuss their interaction with the two approaches. However, no absolute influence of those factors has been found so far. Thus, in the present study, learners' ability and the complexity of grammatical structures were the two factors under investigation to have a more specific comparison between the two approaches.

Due to the consideration of the factor of test-wiseness, writing is an output test in which EFL learners can display their real language competence and raise their awareness of the differences in vocabulary, grammar, and word order between their mother tongue and the target language. However, the negative transfer of EFL learners' L1 has become an interference in the process of foreign language learning so that EFL learners may encounter the difficulty in writing appropriate sentences in the target language. One of the conspicuous negative transfers can be seen in awkward sentences in which Chinese sentence structures are applied in English sentences writing. EFL learners tend to be not aware of Chinese-English word order differences, which has become one of the weaknesses EFL learners encounter in the process of target language learning. According to the classifications of previous studies, Chinese-English word order differences can generally be categorized into the common four

types: modifiers of nouns, modifiers of verbs, existential sentences, and passive sentences. This research is conducted with the aim of exploring the effects of both approaches on EFL learners' language learning of Chinese-English word order differences. Through the practical study combining the two widely-discussed teaching strategies for instructors and the authentic problem for EFL learners, what to be expected is that Taiwanese EFL learners can be equipped with solid knowledge of English in a more effective way.

2.6 Research questions

Due to the inconclusiveness of previous research studying on the efficacy of inductive and deductive approaches, the general effects of the two instructions on the learning of Chinese-English word order differences was the main concern with first-year high school EFL learners being the target participants. Besides, based on the design of research conducted before, there were many possible variables having been analyzed in order to make a more specific comparison between the two approaches. Nevertheless, no consensus has been reached to indicate the definite influence of certain factor. Therefore, the present study also explored the impact of two factors—learners' language proficiency as well as the complexity of grammatical knowledge—on the effectiveness of the two instructions. In this way, the main research questions under investigation are as follows:

1. In terms of inductive and deductive approaches, which one can effectively improve EFL learners' performance on translation in which the differences of word order between Chinese and English are at play?
2. Which instructional approach—inductive or deductive—is more effective in teaching learners with either high or low English proficiency about Chinese-English word order differences?
3. Which instructional approach—inductive or deductive—is more effective in teaching Chinese-English word order differences in either phrasal or sentential level?

The null hypotheses to be tested are as follows:

1. H₀: There is no salient difference of translation performance between inductive and deductive learning groups.
2. H₀: There is no salient difference of translation performance involving Chinese-English word order differences for students with either high or low English proficiency after receiving inductive or deductive instructional approach.
3. H₀: There is no salient difference of translation performance on sentences involving Chinese-English word order differences in either phrasal or sentential level after receiving inductive or deductive learning approach.

Chapter III

Methodology

The study was to conduct an experiment in a class of twenty-eight students with deductive instruction and in the other class of thirty-three students with inductive instruction on grammar associated with Chinese-English word order differences through translation practices. The written translations from the participants of the two classes were graded to see whether inductive or deductive instruction was more effective in the learning of the grammar involving word order differences between Chinese and English.

The period for the study was from December, 2020 to May, 2021. In December, 2020, two classes taught by the same instructor were given the pre-test in order to determine types of word order differences that were performed poorly and were to be included in the study materials. From December, 2020 to May, 2021, the chosen types of word order differences between Chinese and English were taught inductively in one class and deductively in the other. Over these five months, formative tests were given to the two classes after the teaching on each type of word order difference to evaluate how much they had learned under the two instructional strategies. The subjects of the two classes took the summative post-test one week after the chosen types of Chinese-English word order differences had all been taught in May.

3.1 Participants

The participants were sixty-one first-year students from two classes in a vocational senior high school in Yilan, Taiwan. Twenty-eight students in one class belong to the deductive learning group and the other thirty-three in the other class belong to the inductive learning group. The students regularly attended five fifty-minute EFL classes per week. In terms of their English proficiency, the two classes generally shared the same level of language proficiency based on their average scores (deductive=64, inductive=62) of the two midterm exams in the first semester in October and December respectively. Besides, the close value of standard deviation (STDEV for deductive=15.48, STDEV for inductive=14.99) of midterm exams in the two classes also reflected a similar in-group variation among members.

3.2 Material

The materials used in this study were mainly tests, handouts, and the reflection report. Regarding tests, pre-test, formative tests, and post-test were prepared for different stages in the study to evaluate learners' learning results. As for handouts, they were designed based on the two instructional approaches to introduce the concept of the chosen types of grammar related to the word order differences between Chinese and English. In order to figure out the learning process of learners in a thorough way, the translation reflection report was made for learners to fill out after the post-test.

3.2.1 Teaching topic: grammar involving Chinese-English word order differences

As for the types of word order differences adopted in the study, the classification in Weng (2002)'s study was taken as a main reference and the four categories in it were adapted into nine types in total (Table1). As what have been compiled in literature review, the four categories are modifiers of nouns, modifiers of verbs, existential sentences, and passive sentences. Among the four, modifiers of nouns and verbs were put into the category of word order differences in phrasal level, while existential and passive sentences the category of word order differences in sentential level.

With regard to modifiers of nouns, four subtypes were further explored: of-genitive, that-clause, prepositional phrase, and *with* phrase. The types of of-genitive and that-clause were the classification from Weng (2002)'s study, while the types of prepositional phrase and *with* phrase were added in the present study. Regarding prepositional phrases, the Chinese-English word order difference appears when prepositional phrases are placed after nouns in English, which is the reversed order of syntax in Chinese. For example,

(1) a. “桌上的 電腦”

A B

b. “the computer on the desk”

B A

As for *with* phrases, the reversed word order occurs when a *with* phrase follows a noun in English to represent the equivalent prenominal *you zhe* phrase in Chinese. For example,

- (2) a. “有著烏雲的 天空”

A

B
- b. “the sky with dark clouds”

B

A

As to modifiers of verbs, the category fell into three subtypes: time, space, and manner adverbs, which is the same classification in Weng (2002)’s study.

As a result, there were totally nine types of word order differences between Chinese and English being considered the topic of EFL instruction in this study. However, due to the limitation of time for the instruction of extra materials in the teaching reality, six out of nine types of word order differences that had been performed poorly by subjects in the two groups were chosen to be the content of grammar instruction.

Table 1. *The classification of word order difference between Chinese and English*

Types of word order difference between Chinese and English	Modifiers of nouns	of-genitive
		prepositional phrase
		that-clause
		<i>with</i> phrase
	Modifiers of verbs	time adverb
		spatial adverb
		manner adverb
	Existential sentences	
	Passive sentences	

3.2.2 Handout Design

The handouts (see Appendix B & C) were designed by the instructor, in which the six chosen types of Chinese-English word order differences were adopted as the teaching topic. However, to correspond to the two instructional approaches, two versions of handouts were designed with the content rearranged. In the handout for deductive group, rules for the syntactic structures and word order differences were presented and examples followed the next. Then, there were immediate translation practices for the participants to display what they had learned. On the other hand, in the handout for inductive group, examples were listed first. After observing those examples, the participants were asked to discuss the possible rules. To facilitate participants' discussion, several questions related to the syntactic structure and Chinese-English word order difference were provided by the instructor as well in the handout. The immediate translation practices identical to those in the deductive group followed after the participants induced the rules under the guidance of the instructor. In order to prevent EFL learners from giving up doing the exercises due to the lack of knowledge in vocabulary spelling, the words needed for the translation exercises were mainly from the vocabulary they had learned in the currently-used textbook.

3.2.3 Students' translation reflection report

After the post-test, translation reflection reports (see Appendix F) were

distributed to every participant in the two groups. The aim of filling out the reflection report was to realize participants' process of translation, making them reflect on the questions like how they interpreted the meaning of Chinese sentences, how they translated Chinese into English, what difficulties or interference they encountered, and whether they were aware of the word order difference between Chinese and English. Besides, two students among both high and low achievers in the two instructional groups were randomly chosen to have an interview with the instructor to talk about their experience in the instruction and in both pre-test as well as post-test to confirm whether their thoughts corresponded to their reflection on the reports.

Through the reflection reports and interviews, participants' cognitive activity while doing the translation could be explored, which helped the instructor evaluate the validity of EFL learners' writing output and have an actual grasp of their knowledge development of English writing.

3.3 Testing

3.3.1 Pre-test

The pretest (see Appendix A) is a Chinese-to-English translation test containing twenty sentences. The tested sentences included nine types of Chinese-English word order differences with two sentences under each. To avoid participants' assumption toward the purpose of the test, two sentences were added to serve as the distraction

and all the sentences were arranged randomly. Besides, since the main focus of the study was about participants' language knowledge of syntactic structures in English as well as Chinese-English word order differences, a word bank was provided in the test for participants to prevent the interference of vocabulary unfamiliarity. The following Table 2 shows the sentences and their corresponding types of word order differences in the pre-test:

Table 2. *Types of word order difference for sentences in the pre-test*

Sentence	Type of Word Order Difference
Q01. 他在教室裡一直聊天。	Modifiers of Verbs: spatial adverb
Q02. 有著長頭髮的女孩是我的妹妹。	Modifiers of Nouns: <i>with</i> phrase
Q03. 十一月的第四個星期四是感恩節。	Modifiers of Nouns: of-genitive
Q04. 盤子上的蛋糕很美味。	Modifiers of Nouns: prepositional phrase
Q05. 窗戶被男孩打破了。	Passive structure
Q06. 你剛問的數學問題很簡單。	Modifiers of Nouns: that-clause
Q07. 牆上有幅畫。	Existential sentences
Q08. 他已經玩電動玩三小時了。	Modifiers of Verbs: Time adverb-Duration (Sentence for distraction)
Q09. 他在床上躺了一會兒了。	Modifiers of Verbs: spatial adverb
Q10. 花園裡的花很美。	Modifiers of Nouns: prepositional phrase
Q11. 我喜歡臉上有著微笑的女孩。	Modifiers of Nouns: <i>with</i> phrase
Q12. 總經理的車被小偷偷走了。	Passive structure
Q13. 他努力地唸英文。	Modifiers of Verbs: Manner adverb
Q14. 我每天晚上都會彈鋼琴。	Modifiers of Verbs: Time adverb-Frequency
Q15. 我們做的玩具很有趣。	Modifiers of Nouns: that-clause
Q16. 販賣機的方便性是很有吸引力的。	Modifiers of Nouns: of-genitive
Q17. 公園裡有 100 棵樹。	Existential sentences
Q18. 他一周去看兩次電影。	Modifiers of Verbs: Time adverb-Frequency
Q19. 他生氣地走出辦公室。	Modifiers of Verbs: Manner adverb
Q20. 他已經學中文學兩年了。	Modifiers of Verbs: Time adverb-Duration

	(Sentence for distraction)
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3.3.2 Formative tests

After the instruction on each chosen type of Chinese-English word order difference in both inductive and deductive groups, a formative test containing 10 sentences was given to the participants. A word bank was provided as well to prevent vocabulary unfamiliarity. The purpose of formative tests is to help the instructor have a grasp of participants' learning condition.

3.3.3 Post-test

After the instruction on all six chosen types of Chinese-English word order differences, a post-test (see Appendix D) was given one week after. Identical to the pre-test, there were two sentences for each type, which meant that there were 12 sentences in the post-test. As what had been done in the pre-test and formative tests, a word bank was also provided in the post-test.

3.4 Procedure

In the beginning, the two groups took the pre-test whose purpose was to determine which six types of word order differences would be the main focus of the study. With regard to the grading of participants' writing production, each translation using the right syntactic structure in a correct word order was directly given one point regardless of the errors in grammar like subject-verb agreement or tenses or the mistakes in mechanics, such as spelling or punctuation since the main purpose of the

test was to assess whether participants had knowledge about the word order

differences between Chinese and English

As soon as the grading of the pre-test was done, six types of word order differences receiving the lowest average scores were chosen as the main focus in the grammar instruction. According to the result of pre-test in Figure 1 and 2, the two groups shared a similar distribution of writing performance in terms of the six types of word order differences that should be included in the experiment. In Table 3, the rank of the average score of each tested sentence was presented from low to high. The same type of word order difference was counted as one so that the six chosen types of word order differences were the four forms of modifiers of nouns, existential sentences, and manner adverbs modifying verbs.

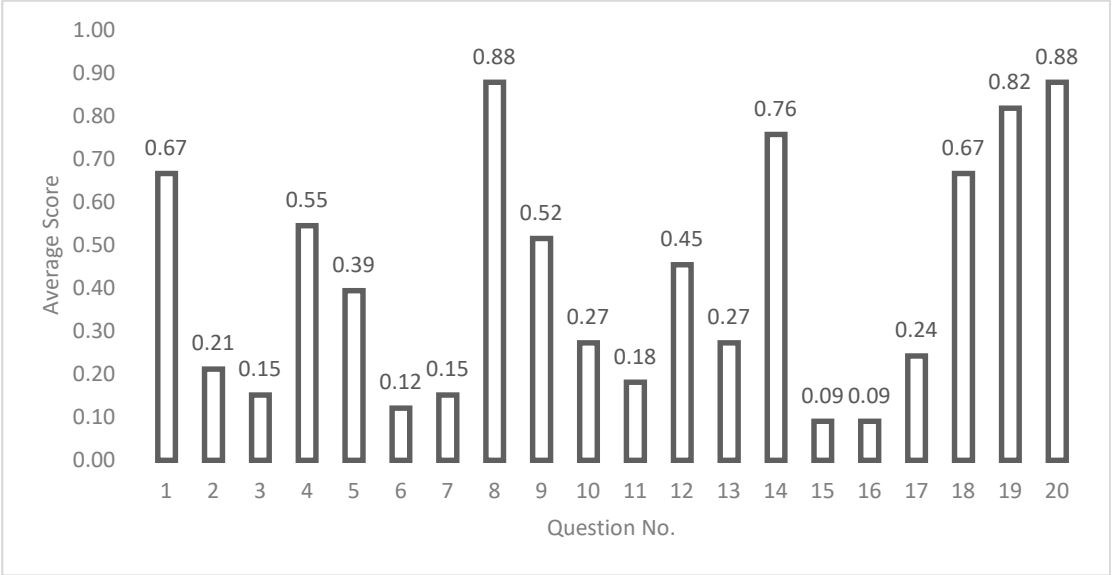


Figure 1. The pre-test result of inductive learning group

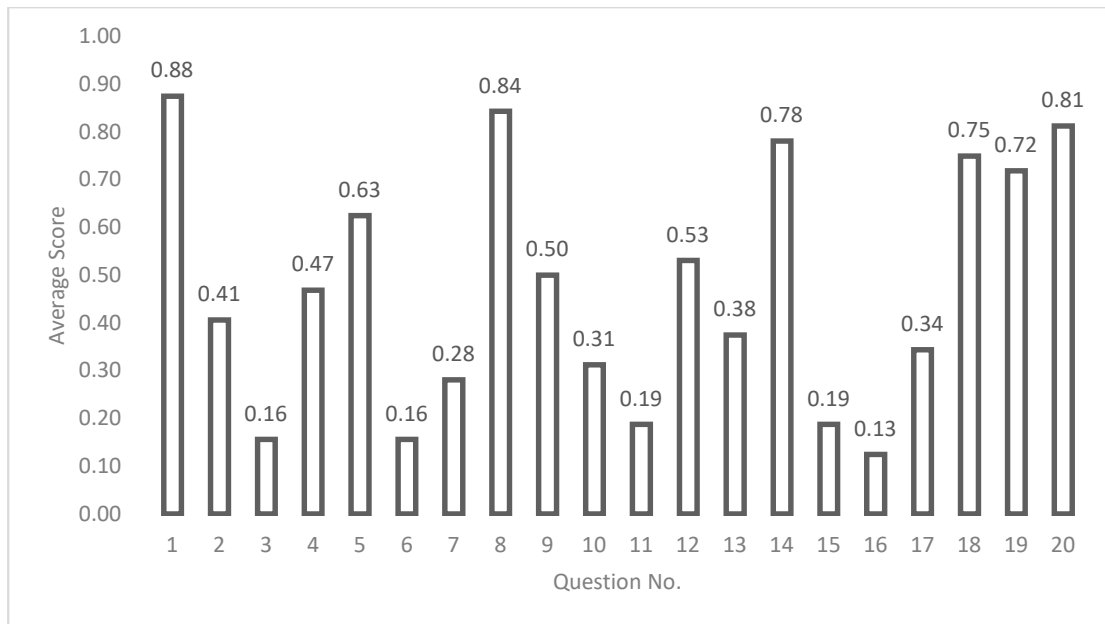


Figure 2. The pre-test result of deductive learning group

Table 3. Types of word order difference receiving low average score in the two groups

Rank	Inductive learning group		Rank	Deductive learning group	
1	Q15 (0.09)	★Modifiers of Nouns-that-clause	1	Q16 (0.13)	★Modifiers of Nouns- of-genitive
1	Q16 (0.09)	★Modifiers of Nouns-of-genitive	2	Q03 (0.16)	Modifiers of Nouns-of-genitive
2	Q06 (0.12)	Modifiers of Nouns- that-clause	2	Q06 (0.16)	★Modifiers of Nouns- that-clause
3	Q03 (0.15)	Modifiers of Nouns- of-genitive	3	Q11 (0.19)	★Modifiers of Nouns-with phrase
3	Q07 (0.15)	★Existential sentences	3	Q15 (0.19)	Modifiers of Nouns- that-clause
4	Q11 (0.18)	★Modifiers of Nouns-with phrase	4	Q07 (0.28)	★Existential sentences
5	Q02 (0.21)	Modifiers of Nouns- with phrase	5	Q10 (0.31)	★Modifiers of Nouns- prepositional phrase
6	Q17 (0.24)	Existential sentences	6	Q17 (0.34)	Existential sentences
7	Q10 (0.27)	★Modifiers of Nouns- prepositional phrase	7	Q13 (0.38)	★Modifiers of Verbs-Manner adverb
7	Q13 (0.27)	★Modifiers of Verbs-Manner adverb	* The blanks with the star sign are the six types of word order difference chosen to be the teaching topic.		

Then the two groups received inductive and deductive instruction respectively about the six chosen types of word order differences. In deductive learning group, participants were presented with rules first and then with example sentences. After examples, there were several sentences for practice. For the inductive learning group, participants were presented with example sentences first. Then they were supposed to discuss with their classmates about the possible rules with the guided questions provided by the instructor for them to provoke thoughts. Afterwards, there were also several sentences for practice. In addition, a formative test was given to the learners in the two groups after the instruction of each chosen type of word order difference to assess their understanding.

After the different instructions in the two groups, the post-test was given one week after to compare with the pre-test and evaluate the effects of the two instructional approaches by examining participants' learning development. In order to understand students' cognitive activity during translation, the instructor asked the learners to fill out the translation reflection reports and had interviews with two randomly-chosen students among both high and low achievers in the two instructional groups.

3.5 Data Analysis

Regarding the analysis of the data, first, independent sample t-test was used to

compare learning performance of the inductive and deductive learning groups in pre-test and post-test.

In the two groups of the study, there were respectively participants with high and low English proficiency. According to Kelly (1939), the optimum point at which upper groups and lower groups balance out is 27 percent. Thus based on the pre-test scores, the top 27 percent of the participants in both groups were EFL learners with high proficiency and the last 27 percent were those with low proficiency. Then, paired sample t-test was used to analyze the progress of learning performance of students with high English proficiency and those with low English proficiency between pre-test and post-test under the two instructional approaches. Besides, with a view to doing a cross-group comparison in both pre-test and post-test to ascertain the effects of the two instructions for high and low achievers, independent sample t-test was adopted again.

In addition, in terms of the complexity of word order differences, the six chosen types of word order differences were divided into two levels: phrasal and sentential level. In order to evaluate the effects of the two instructional approaches on the learning of word order differences in the two levels, paired sample t-test was used for the further analysis of the difference of translation performance between pre-test and post-test. Similarly, to attest the effectiveness of the two approaches on the instruction

of different types of word order differences, cross-group comparison was made with independent sample t-test.



Chapter IV

Research Results

In the section of research results, the data collected from the participants in the two instructional groups was analyzed based on three aspects in order to answer the three research questions and to attest the validity of the three null hypotheses. First of all, the difference of overall translation performance between inductive and deductive learning groups in both pre-test and post-test was presented through descriptive statistics. Then, participants' English proficiency and the types of Chinese-English word order differences were the two factors to be examined to ascertain the effects of both inductive and deductive instruction.

4.1 The test results of the two instructional groups in pre-test and post-test

To compare the translation performance between the two groups under different instructions, independent-sample t-test was adopted to present the means and standard deviations for the test results on both pre-test and post-test in Table 4. The difference between the two groups was not statistically significant in pre-test (3.2 vs.3.7) $p=.5482>.05$ and in post-test (5.9 vs. 6.3) $p=.6536>.05$, which is consistent with the null hypothesis 1 that there is no salient difference of translation performance between deductive and inductive groups.

Table 4. *Descriptive statistics of two groups in pre-test and post-test*

		Means	SD	t	p
Pre-test	IL (n=33)	3.2	2.84	0.6039	0.5482
	DL(n=28)	3.7	2.78		
Post-test	IL (n=33)	5.9	3.45	-0.4511	0.6536
	DL(n=28)	6.3	3.58		

SD = standard derivation ; IL = Inductive Learning ; DL = Deductive Learning

*Maximum score = 12

4.2. The test results based on participants' English proficiency

4.2.1 The test results of students with high English proficiency

For those participants with high English proficiency within inductive and deductive learning groups, the test results in both pre-test and post-test were presented in Table 5 with paired-sample t-test used for the analysis. The difference between pre-test and post-test in both inductive and deductive learning groups was statistically highly significant based on the judgement from the p-value (IL=.000109 <.001 vs. DL=.000122 <.001). Concerning the cross-group comparison in pre-test and post-test, the test results were displayed in Table 6 with the calculation of independent sample t-test. The difference between the two groups was not statistically significant in pre-test (7.1 vs.7.3) $p=.8867>.05$ and in post-test (10.1 vs. 9.8) $p=.6909>.05$.

The result is consistent with the null hypothesis 2 that there is no salient difference of

translation performance involving Chinese-English word order differences for students with high English proficiency after receiving inductive and deductive instruction.

Table 5. *Descriptive statistics of students with high English proficiency in pre-test and post-test under the two instructional groups*

		Means	df	t	p
IL(n=9)	Pre-test	7.1	8	-6.3639	0.000109
	Post-test	10.1			
DL (n=8)	Pre-test	7.3	7	-7.6376	0.000122
	Post-test	9.8			

df = degree of freedom ; IL = Inductive Learning ; DL = Deductive Learning

*Maximum score=12

Table 6. *Descriptive statistics of students with high English proficiency under the two instructions in pre-test and post-test*

		Means	SD	t	p
Pre-test	IL (n=9)	7.1	2.09	-0.1449	0.8867
	DL(n=8)	7.3	1.83		
Post-test	IL (n=9)	10.1	1.45	0.4055	0.6909
	DL(n=8)	9.8	2.19		

SD = standard derivation ; IL = Inductive Learning ; DL = Deductive Learning

*Maximum score = 12

4.2.2 The test results of students with low English proficiency

With regard to the participants with low English proficiency within inductive and deductive learning groups, the test results in both pre-test and post-test were presented in Table 7. The p-value in paired-sample t-test revealed that the difference between pre-test and post-test in inductive group was extremely significant ($p=.000134 < .001$) and that in deductive group was also highly significant ($p=.002536 < .01$). As for the cross-group comparison in pre-test and post-test, the test results were displayed in Table 8. The difference between the two groups was not statistically significant in pre-test (0.67 vs. 0.88) $p=.3430 > .05$ and in post-test (2.78 vs. 1.63) $p=.0546 > .05$, which was in accordance with the null hypothesis 2 that there is no salient difference of translation performance for students with low English proficiency after receiving the two instructional approaches.

Table 7. Descriptive statistics of students with low English proficiency in pre-test and post-test under the two instructional groups

		Means	df	t	p
IL(n=9)	Pre-test	0.67	8	-6.8250	0.000134
	Post-test	2.78			
DL (n=8)	Pre-test	0.88	7	-4.5826	0.002536
	Post-test	1.63			

df = degree of freedom ; IL = Inductive Learning ; DL = Deductive Learning

*Maximum score=12

Table 8. *Descriptive statistics of students with low English proficiency under the two instructions in pre-test and post-test*

		Means	SD	t	p
Pre-test	IL (n=9)	0.67	0.50	-0.9793	0.3430
	DL(n=8)	0.88	0.35		
Post-test	IL (n=9)	2.78	1.39	2.0844	0.0546
	DL(n=8)	1.63	0.74		

SD = standard derivation ; IL = Inductive Learning ; DL = Deductive Learning

*Maximum score = 12

4.3 The test results based on the types of Chinese-English word order differences

4.3.1 Chinese-English word order difference in sentential level

Among the six types of Chinese-English word order differences, the categorization was narrowed down into two levels based on their roles in a syntactic structure: phrasal and sentential level. As far as the sentential level was concerned, existential sentences in English present the mirror image phenomenon by reversing the word order of the locative and the NP with the preceding existential verb in Chinese equivalents. With a view to evaluating participants' translation performance on each type of the word order difference under the two instructional approaches, paired-sample t-test was employed to present the in-group variation between pre-test

and post-test and independent sample t-test was used to display cross-group comparison in the two tests.

4.3.1.1 Existential sentences

Regarding the translation performance on existential sentences, the test results between pre-test and post-test in both groups were presented in Table 9. The difference between pre-test and post-test in inductive and deductive learning groups was statistically highly significant based on the judgement from the p-value (IL=.002146 <.01 vs. DL=.009594 <.01). However, the cross-group statistics of independent sample t-test in Table 10 showed that the difference between the two groups in pre-test (0.30 vs. 0.36) $p=.6178>.05$ and post-test (0.57 vs. 0.59) $p=.9037>.05$ was not significant, which was identical to the null hypothesis 3 that there is no salient difference of translation performance on sentence involving Chinese-English word order differences in sentential level after EFL learners receive inductive or deductive learning approach.

Table 9. *In-group descriptive statistics of learners' performance on existential sentences*

		Means	df	t	p
IL(n=9)	Pre-test	0.30	32	-3.3389	0.002146
	Post-test	0.57			
DL (n=8)	Pre-test	0.35	27	-2.7881	0.009594
	Post-test	0.59			

df = degree of freedom ; IL = Inductive Learning ; DL = Deductive Learning

*Maximum score=2

Table 10. *Cross-group descriptive statistics of learners' performance on existential sentences*

		Means	SD	t	p
Pre-test	IL (n=33)	0.30	0.41	-0.5017	0.6178
	DL(n=28)	0.36	0.43		
Post-test	IL (n=33)	0.57	0.42	-0.1215	0.9037
	DL(n=28)	0.59	0.45		

SD = standard derivation ; IL = Inductive Learning ; DL = Deductive Learning

*Maximum score = 2

4.3.2 Chinese-English word order differences in phrasal level

There were five types of Chinese-English word order differences put in the phrasal level in this study: of-genitive, prepositional phrase, that-clause, and *with*

phrase under modifiers of nouns as well as manner adverb under modifiers of verbs.

In a syntactic structure, the five types serve as a unit in NPs or VPs, which is the reason why they are classified into phrasal level.

4.3.2.1 Modifiers of nouns: of-genitive

Pertaining to the translation performance on of-genitive structure, the test results were statistically presented in Table 11. Judging from the p-value ($IL=.000099 < .001$ vs. $DL=.001904 < .01$), the difference between pre-test and post-test was extremely significant in inductive group and highly significant in deductive group. As for the cross-group comparison in both pre-test (0.11 vs. 0.16) $p=.4850 > .05$ and post-test (0.42 vs. 0.45) $p=.8364 > .05$, the results of independent sample t-test in Table 12 revealed that there was no significant difference in the two groups in terms of the translation performance on the structure of of-genitive, which was consistent with the null hypothesis 3 that there is no salient difference of translation performance on sentences involving Chinese-English word order differences in phrasal level after EFL learners receive inductive or deductive learning approach.

Table 11. *In-group descriptive statistics of learners' performance on of-genitive*

		Means	df	t	p
IL(n=9)	Pre-test	0.11	32	-4.4458	0.000099
	Post-test	0.42			
DL (n=8)	Pre-test	0.16	27	-3.4403	0.001904
	Post-test	0.45			

df = degree of freedom ; IL = Inductive Learning ; DL = Deductive Learning

*Maximum score=2

Table 12. *Cross-group descriptive statistics of learners' performance on of-genitive*

		Means	SD	t	p
Pre-test	IL (n=33)	0.11	0.30	-0.7027	0.4850
	DL(n=28)	0.16	0.31		
Post-test	IL (n=33)	0.42	0.44	-0.2074	0.8364
	DL(n=28)	0.45	0.39		

SD = standard derivation ; IL = Inductive Learning ; DL = Deductive Learning

*Maximum score = 2

4.3.2.2 *Modifiers of nouns: prepositional phrase*

With respect to the structure of prepositional phrases in NPs, the p-value in inductive group ($IL=.015945 < .05$) showed that the difference between pre-test and post-test was statistically significant, while that in deductive group ($DL=.258675$

>.05) indicated that the difference was not salient. As for the cross-group comparison through independent sample t-test, the results in Table 14 showed that the difference between the two groups in learners' translation performance on the structure of prepositional phrase in post-test (0.55 vs. 0.50) $p=.6859>.05$ was not significant, which was also in accordance with the null hypothesis 3.

Table 13. *In-group descriptive statistics of learners' performance on prepositional phrase*

		Means	df	t	p
IL(n=9)	Pre-test	0.39	32	-2.5451	0.015945
	Post-test	0.55			
DL (n=8)	Pre-test	0.41	27	-1.1539	0.258675
	Post-test	0.50			

df = degree of freedom ; IL = Inductive Learning ; DL = Deductive Learning

*Maximum score=2

Table 14. *Cross-group descriptive statistics of learners' performance on prepositional phrase*

		Means	SD	t	p
Pre-test	IL (n=33)	0.39	0.43	-0.1519	0.8798
	DL(n=28)	0.41	0.43		
Post-test	IL (n=33)	0.55	0.42	0.4064	0.6859
	DL(n=28)	0.50	0.45		

SD = standard derivation ; IL = Inductive Learning ; DL = Deductive Learning

*Maximum score = 2

4.3.2.3 *Modifiers of nouns: that-clause*

Concerning the performance on that-clause structure, the test results were displayed in Table 15. The difference between pre-test and post-test was statistically significant in deductive group ($DL=.011448 < .05$) and was extremely significant in inductive group ($IL=.000677 < .001$). Independent sample t-test was used as well to compare the performance of the two groups in pre-test and post-test. The results in Table 16 demonstrated again there was no significant difference in the performance between the two instructions in the two groups in post-test (0.38 vs. 0.32) $p=.6439 > .05$, which corresponded to null hypothesis 3 again.

Table 15. *In-group descriptive statistics of learners' performance on that-clause*

		Means	df	t	p
IL(n=9)	Pre-test	0.11	32	-3.7635	0.000677
	Post-test	0.38			
DL (n=8)	Pre-test	0.11	27	-2.7136	0.011448
	Post-test	0.32			

df = degree of freedom ; IL = Inductive Learning ; DL = Deductive Learning

*Maximum score=2

Table 16. *Cross-group statistics of learners' performance on that-clause*

		Means	SD	t	p
Pre-test	IL (n=33)	0.11	0.27	-0.0144	0.9886
	DL(n=28)	0.11	0.32		
Post-test	IL (n=33)	0.38	0.48	0.4646	0.6439
	DL(n=28)	0.32	0.48		

SD = standard derivation ; IL = Inductive Learning ; DL = Deductive Learning

*Maximum score = 2

4.3.2.4 *Modifiers of nouns: with phrase*

In Table 17, what was presented was the test results of the performance on *with* phrase structure in both groups. According to the p-value (IL=.017064 <.05 vs.

DL=.020362 <.05), the difference between pre-test and post-test under both inductive and deductive instruction was statistically significant. Nevertheless, judging from the statistics of independent sample t-test, the results in Table 18 indicated that there was also no significant difference found in the two instructional groups in post-test (0.36 vs. 0.45) $p=.4832>.05$, which proved the null hypothesis 3 once again.

Table 17. *In-group descriptive statistics of learners' performance on with phrase*

		Means	df	t	p
IL(n=9)	Pre-test	0.17	32	-2.5165	0.017064
	Post-test	0.36			
DL (n=8)	Pre-test	0.23	27	-2.4648	0.020362
	Post-test	0.45			

df = degree of freedom ; IL = Inductive Learning ; DL = Deductive Learning

*Maximum score=2

Table 18. *Cross-group descriptive statistics of learners' performance on with phrase*

		Means	SD	t	p
Pre-test	IL (n=33)	0.17	0.35	-0.7112	0.4797
	DL(n=28)	0.23	0.37		
Post-test	IL (n=33)	0.36	0.44	-0.7056	0.4832
	DL(n=28)	0.45	0.48		

SD = standard derivation ; IL = Inductive Learning ; DL = Deductive Learning

*Maximum score = 2

4.3.2.5 Modifiers of verbs: manner adverb

In regard to the last sub-type under phrasal level, manner adverbs in VPs, the test results were shown in Table 19. In deductive group, the p-value ($DL=.006524 < .01$) indicated that the difference between pre-test and post-test was highly significant, while that in inductive group ($IL=.181887 > .05$) demonstrated that there was no salient difference. Regarding the cross-group comparison in pre-test and post-test, the results of independent sample t-test in Table 20 revealed that there was significant difference between the two groups in post-test (0.65 vs. 0.84) $p=.0417 < .05$, which contradicted the null hypothesis 3 saying that there is no salient difference of translation performance on sentences involving Chinese-English word order differences in phrasal level after receiving inductive or deductive instruction.

Table 19. *In-group descriptive statistics of learners' performance on manner adverb*

		Means	df	t	p
IL(n=9)	Pre-test	0.55	32	-1.3646	0.181887
	Post-test I	0.65			
DL (n=8)	Pre-test	0.57	27	-2.9481	0.006524
	Post-test I	0.84			

df = degree of freedom ; IL = Inductive Learning ; DL = Deductive Learning

*Maximum score=2

Table 20. *Cross-group descriptive statistics of learners' performance on manner adverb*

		Means	SD	t	p
Pre-test	IL (n=33)	0.55	0.34	-0.2739	0.7851
	DL(n=28)	0.57	0.40		
Post-test	IL (n=33)	0.65	0.39	-2.0820	0.0417
	DL(n=28)	0.84	0.31		

SD = standard derivation ; IL = Inductive Learning ; DL = Deductive Learning

*Maximum score = 2

4.4 Summary

In the analysis of the overall translation performance of the participants under the two instructions in both pre-test and post-test, independent-sample t-test was employed. The difference between the two groups was not statistically significant in pre-test and post-test, which answered research question 1 and was consistent with the null hypothesis 1 that there is no salient difference of translation performance between the two learning groups.

To further discuss the effects of the two instructions, participants' English proficiency and the types of Chinese-English word order differences were the two aspects being analyzed through paired sample t-test to examine the variance in translation performance between pre-test and post-test in the two groups. Besides,

through independent sample t-test, cross-group comparison was made to ascertain the effectiveness of the two instructions. Regarding participants' English proficiency, the test results of students with high and low English proficiency in the two groups were viewed respectively. For high achievers, the variance between pre-test and post-test was highly significant under both inductive and deductive instruction. As for low achievers, inductive approach made extremely significant difference between their performance in pre-test and post-test, which seemed a little better than the highly significant difference under deductive approach. In other words, for high and low achievers, both inductive and deductive approach had significant impact on their translation performance, and the effect was particularly conspicuous for low achievers under inductive instruction. However, the two groups on the whole made no obvious difference in the translation performance on sentences involving Chinese-English word order differences, which was consistent to the null hypothesis 2 that there is no salient difference for students with either high or low English proficiency after they receive inductive or deductive approach. Therefore, to answer research question 2, learners' language proficiency seemed to have no obvious impact on the effectiveness of the two instructional approaches in the present study.

With respect to the translation performance on different types of Chinese-English word order differences, the results of the structures in sentential and phrasal

level were analyzed through paired sample t-test and independent sample t-test. In terms of the only word order difference in sentential level in this study—existential sentences, the difference between pre-test and post-test was highly significant in both inductive and deductive groups. Nevertheless, according to the cross-group comparison made by independent sample t-test, there was no obvious difference found in the translation performance in post-test. As for the five types of word order differences in phrasal level, the variation between pre-test and post-test in both instructional groups was generally significant except for the performance on the structure of prepositional phrases in deductive group and manner adverbs in inductive group. Despite of the significant in-group variation between pre-test and post-test, there was generally no salient difference in the translation performance between the two instructions based on the statistics of independent sample t-test with only one exception found in the structure of manner adverbs. In other words, the answer to research question 3 in the present study was that whether the word order difference was in sentential or phrasal level did not absolutely correlate with the effectiveness of the two approaches, which corresponded to the null hypothesis 3.

Chapter V

Implications of Research Results

5.1 Overall translation performance of the two instructional groups

This thesis aimed to make a comparison between inductive and deductive approach regarding their effects among EFL learners on their translation performance. The results indicated that there was no significant difference found between both inductive and deductive learning groups. This result was consistent with the finding of Zamani and Mohammadi's (2014) study indicating that the learning achievement of language learners of the age between 15 to 17 did not correlate with whether they were exposed to inductive or deductive learning conditions. Besides, the results in the present study also substantiated the earlier study conducted by Motha (2013) revealing that there was little overall difference in the effectiveness of inductive and deductive approaches. One potential variable that can be inferred concerning the insignificant difference between the two groups might be the limited length of exposure to the approach since participants in Taiwan have long been taught sentence structures as well as grammar in an explicit deductive way. In the face of the newly-adapted textbook with the adoption of inductive approach in the section of grammar focus, participants were still novices embarking on the transfer from rules-to-examples to examples-to-rules learning approach so that the time for them to facilitate

the language knowledge was probably insufficient.

5.2 The relation between language proficiency and the two instructions

The highly significant difference between pre-test and post-test among high achievers in the two groups based on the p-values pointed out that high achievers could benefit from both inductive and deductive instructions in this study. The result to some extent endorsed the argument in Abdul-Ghafa (2019)'s study telling that one of the most frequently-used learning methods by high achievers was cognitive strategy. Under inductive instruction, two kinds of competence in cognitive strategy, reasoning and analyzing, play important roles in learners' learning process, while in deductive instruction, the cognitive skills like processing the rules of grammatical structures as well as memorizing the rules are essential. Therefore, the implication in terms of high achievers' translation performance in the present study is that both inductive and deductive instruction can do certain positive effect on the learning of Chinese-English word order differences; however, there is no significant difference between the two instructions.

Regarding the performance of participants with low English proficiency, the results showed that low achievers could enhance their performance in translation through both inductive and deductive learning, especially in inductive group since the variance of translation performance in the group was more significant than that in

deductive group. The result was consistent with the findings in Sulaiman (2012)'s research indicating that low achievers receiving inductive and deductive teaching showed progress in performance and yet there was a higher margin of improvement in inductive group. Nevertheless, the result of cross-group comparison implied that there was no conspicuous difference in the learning of Chinese-English word order differences for low achievers between the two groups, which seemed to substantiate the inference in Chen & Shih (2008)'s research stating that less proficient learners are more flexible in adapting themselves to different teaching approaches in grammar instruction in Taiwan's EFL context.

5.3 The relation between the complexity of grammatical structures and the two instructions

In addition to the general effectiveness of the two instructions and the translation performance of high achievers as well as low achievers under the two instructions, participants' performance on different types of Chinese-English word order differences under the two instructions was analyzed as well to attest the effects of the two approaches. On the whole, there was statistically significant improvement between pre-test and post-test in each type of word order difference, including the structures in sentential level and phrasal level under the two instructions. The only two exceptions in which no salient progress was found were the structure of

prepositional phrases in NPs in deductive group and manner adverbs in VPs in inductive group. Besides, different degree of significance was shown in the two groups in terms of the performance on two types of word order difference in phrasal level, the structures of of-genitive and that-clause. Concerning the translation performance on these two structures, the variance of participants' difference between pre-test and post-test was more significant in inductive group than that in deductive group.

With regard to the effects of inductive and deductive approaches, there was little research conducted to discuss the relation between instructional approaches and the learning achievement in grammar related to word order differences. Thus, there was no robust evidence found to fully explain the results in the present study. However, possible interpretations were presented in Wang (2002) and Nagata (1997)'s research discussing the interaction between teaching approach and task complexity. In Wang (2002)'s research, what was implied was that inductive teaching tended to be more effective in the instruction of simpler grammatical patterns, while in Nagata (1997)'s study, deductive teaching was said to be more suitable for teaching more complex grammatical tasks. According to the statistic results from translation reflection reports collected from the participants in the two groups in Table 21, the structure of prepositional phrases in NPs was considered the easiest by participants

receiving inductive instruction, for the average difficulty rate marked by them was the lowest 2.27 out of 5 among the six types of word order differences. In accordance with Wang (2002)'s finding, learners under inductive instruction performed better on the structure which they regarded as the simpler grammatical structure than learners of deductive group. As for participants in deductive group, they were superior to inductive group in the performance on the structure of manner adverbs, for which the average difficulty rate was the highest 3.73 out of 5 among the six types of word order differences. Moreover, the structure of manner adverbs in VPs was the only type of word order difference among the six in which cross-group significance was found. From the results above, there was a tendency that participants learned more effectively under inductive approach when simpler grammar was taught, while achieved better under deductive approach when more difficult grammar was presented. Based on this tendency in the results in the present study, the findings of both Wand (2002) and Nagata (1997) were proved.

Concerning the difficulty of the structure of manner adverbs, it was viewed the most challenging structure among the six types of word order differences by participants not only in deductive group but also in inductive group based on participants' reflection in the translation reports. Through the interviews with participants in the two groups, some of them mentioned the reason behind their rating.

Since there are two positions in which a manner adverb can be inserted in general, verb premodification or verb postmodification, they needed to memorize the exceptions in which verb postmodification is required, such as *hard*, *early*, *late*, etc. In the structures with more exceptions to be taken into account, it was likely that learners considered them more challenging to learn.

As what have been presented above, through in-group comparison between pre-test and post-test, the variance of performance on each type of word order difference was generally significant. For the structure of of-genitive, prepositional phrases, and that-clauses, it was inductive group that performed better, while deductive group had greater variance between pre-test and post-test in the structure of manner adverbs. Despite the significant difference between pre-test and post-test in in-group comparison, the statistics in cross-group comparison indicated that the effectiveness of inductive and deductive approach could not be conspicuously differentiated from the aspect of the complexity of grammatical structures in the present study. However, the significant cross-group difference in the structure of manner adverbs substantiated the previous finding that inductive approach might have greater positive effect on the learning of more difficult grammatical rule.

Table 21. *The average difficulty rate of the six types of Chinese-English word order difference in two instructional groups*

	Inductive learning group	Deductive learning group
Existential sentence	2.29(5)	2.28(6)
Modifiers of nouns: of-genitive	3.61 (2)	2.42(5)
Modifiers of nouns prepositional phrase	2.27(6)	2.90(3)
Modifiers of nouns: that-clause	2.86(3)	3.63(2)
Modifiers of nouns: <i>with</i> phrase	2.80(4)	2.80(4)
Modifiers of verbs: manner adverb	3.86 (1)	3.73(1)

5.4 Pedagogical Implications

In teaching reality, due to the fact that newly-implemented curriculum puts more emphasis on student-centered learning, inductive approach has been adopted in the instruction of grammar knowledge in the latest textbooks. Meanwhile, deductive instruction is still preserved during the transition. According to the test results of the present study, either inductive or deductive approach could have positive effect on the learning of grammar, yet there is no salient difference between the two approaches in terms of their effectiveness. In addition, both high and low achievers are able to benefit from the two approaches in the process of grammar learning. Moreover, the

complexity of grammatical structures seems to make no significant difference between the two instructions.

In spite of the fact that there is no salient difference between the two instructions, the results of in-group comparison showed a tendency that low achievers could possibly have greater variance of improvement under inductive instruction. In addition, one more finding was that for the teaching of grammatical structure with higher difficulty, deductive approach might be a little more effective than inductive one, while for those structures with less complexity, inductive instruction could have slightly greater effect on learners' learning results.

Moreover, from the interviews with participants and their translation reflection reports, what was implied was that the majority of them actually have noticed the Chinese-English word order differences before the instruction given in class, yet there was a discrepancy between their awareness of the phenomenon and the competence to perform the knowledge appropriately in the process of translation. Many of them indicated that they had difficulty transferring their language systems from Chinese to English. Nonetheless, most participants in both groups did mention the major difference they had found between the presentation of grammar knowledge in the textbook and in the handouts designed by the instructor. In the handouts, more examples of the targeted grammatical structure were presented, which enabled

participants in inductive group to observe and do analysis and those in deductive group to examine the rules they were taught. In other words, the implication was that examples play a crucial role for learners to facilitate linguistic knowledge in L2 whether they are presented after explicit rules or before the formation of rules. With the reflection of participants' learning experience, it is suggested that more examples could be provided under each targeted grammatical structure for more effective comprehension and internalization of the knowledge.



Chapter VI

Conclusion and future research

6.1 Conclusion for the research

The findings in this study indicated that there was no significant difference of translation performance in both inductive and deductive learning groups in general, which showed a consistency with some of the previous studies claiming that little to no difference was displayed in the effectiveness of the two instructional approaches. The results might be attributed to the limited length of exposure to the instructions, especially to the inductive one since EFL learners in Taiwan have long been taught grammar knowledge in deductive way.

As for the possible variable of learners' language proficiency, the result of cross-group comparison implied that the two instructions made no conspicuous difference on the learning of Chinese-English word order differences for either high or low achievers. However, the in-group variance between pre-test and post-test for high achievers in the two groups was significant, which endorsed the inference in a previous study indicating that high achievers tend to adopt cognitive strategies more frequently as their learning method. With respect to the performance of low achievers, there was also significance found in the variance between pre-test and post-test in the two instructional groups with a higher margin in the inductive group. The implication

was that low-aptitude learners are said to possess the flexibility to adapt themselves to different teaching approaches in grammar instruction. All in all, under the condition that either inductive or deductive instruction can have significantly positive effect on both high and low achievers, inductive learning might be the approach that could exert a little greater influence on the learning of grammar knowledge for those low-aptitude learners.

Besides the variable of learners' proficiency, the other factor taken into consideration in this study in terms of the effects of the two instructions was the types of Chinese-English word order differences. According to the cross-group comparison, there was no significant difference between inductive and deductive instruction in their effects on the learning of Chinese-English word order differences in either phrasal or sentential level in this study except for the structure of manner adverbs. Nonetheless, the in-group variance was significant for word order differences in either sentential or phrasal level in general. Besides, the higher margin of variance in the structure of manner adverbs under deductive group displayed the tendency that deductive approach was a little more effective on the learning of more complex grammatical rules.

As what have been indicated above, the inductive instruction introduced in the grammar focus section in the latest versions of textbooks under the newly-

implemented curriculum can be expected to have positive effect on learners' learning achievement. However, when different grammar knowledge is presented, the difficulty and the complexity of rules should be evaluated so that instructors can adjust the teaching approach to enhance the effectiveness of instruction for learners. In addition, according to learners' reflection in the present study, what seems to be certain is that the exposure to examples related to the targeted grammatical rules are critical to foster learners' learning of grammatical knowledge in L2.

6.2 Limitations and future research

In the present study, what was revealed was the difference between in-group and cross-group comparison. In in-group results, there were usually significant difference between pre-test and post-test in either inductive or deductive group, yet the significant difference was not found in cross-group results. One possible inference was associated with Taiwanese learners' limited length of exposure to inductive approach since they have long been taught in deductive way and have got used to it in the EFL teaching reality in Taiwan. Therefore, further research can be conducted as a long-term project. If the length of instruction can be extended, the instruction session can be implemented in a more completed way with more examples presented for participants to refer to and more practices given to facilitate the learning of the word order differences. This way, students who have already got used to certain

instructional approach can be given sufficient time to transfer their learning method and solidify what they have learned. Besides, more types of word order differences can also be included to be tested in a long-term study in order to make the results more convincing and more valid to ascertain the difference of performance under the two instructions.

Last but not least, one more issue that can be involved in the discussion of future research is about the form of tests for the assessment of learners' grammatical knowledge. In this study, by considering test-wiseness and the common ways of English examination in Taiwan's EFL teaching reality, the test on Chinese-English translations is chosen. However, whether the performance on translations can truly represent learners' real language competence in English is uncertain. Thus, the form of tests to be adopted can be evaluated and adjusted in future research in terms of the comparison of the effects between the two instructions.

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Appendix A: Pre-test of the study

Translation Practice I (中翻英練習 I)

Class: _____ No.: _____ Name: _____

- ◆ 請將下列句子翻譯成英文 (請同學參考下列的單字盡量完成每一句的翻譯，請勿留空白)

Word Bank (參考用字):

◎classroom 教室 ◎chat 聊天(chat-chatted-chatted; chatting) ◎November 十一月 ◎Thursday 星期四
◎Thanksgiving 感恩節 ◎plate 盤子 ◎delicious 美味的 ◎break 打破(break-broke-broken; breaking)
◎math 數學 ◎wall 牆 ◎picture 畫 ◎video game 電動 ◎lie 躺(lie-lay-lain; lying) ◎garden 花園

1. 他在教室裡一直聊天。

2. 有著長頭髮的女孩是我的妹妹。

3. 十一月的第四個星期四是感恩節。

4. 盤子上的蛋糕很美味。

5. 窗戶被男孩打破了。

6. 你剛問的數學問題很簡單。

7. 牆上有幅畫。

8. 他已經玩電動玩三小時了。

9. 他在床上躺了一會兒了。

10. 花園裡的花很美。

Word Bank (參考用字):

◎face 臉 ◎smile 微笑 ◎manager 總經理 ◎thief 小偷 ◎steal 偷(steal-stole-stolen; stealing)
◎hard 努力地 ◎study 唸書(study-studied-studied; studying) ◎play the piano 彈鋼琴 ◎interesting 有趣的
◎vending machine 販賣機 ◎convenience 方便性 ◎attractive 有吸引力的 ◎park 公園
◎go to the movie 看電影 ◎angrily 生氣地 ◎office 辦公室

11. 我喜歡臉上有著微笑的女孩。

12. 總經理的車被小偷偷走了。

13. 他努力地唸英文。

14. 我每天晚上都會彈鋼琴。

15. 我們做的玩具很有趣。

16. 販賣機的方便性是很有吸引力的。

17. 公園裡有 100 棵樹。

18. 他一周去看兩次電影。

19. 他生氣地走出辦公室。

20. 他已經學中文學兩年了。

Appendix B: Handouts for deductive group

Class: _____; No.: _____; Name: _____

■ 文法焦點: 「有」

PartA. Introduction to Rules 規則介紹:

常用規則 1: have/ has 表示「擁有的有」, 多用在「人當主詞」, 亦可用在「動植物」及「非生命」, 表達「包含、持有、或是含有一部分或整體」

常用規則 2: there is / there are 表示「存在的有」

PartB. Examples 例子:

編號	中文	英文	相對應規則
Ex.1	我有兩本書。	I have two books.	
Ex.2	他有一個想法。	He has an idea.	
Ex.3	小女孩有深色的長髮。	The little girl has dark and long hair.	
Ex.4	那輛車有動力剎車。	The car has power brakes.	
Ex.5	這花有 5 片花瓣。	The flower has five petals.	
Ex.6	這張書桌有兩個抽屜。	This desk has two drawers.	
Ex.7	牆上有一隻蜘蛛。	There is a spider on the wall.	
Ex.8	班上有 19 位男生。	There are 19 boys in the class.	
Ex.9	明天沒有課。	There will be no class tomorrow.	
Ex.10	明年有兩場演唱會。	There will be two concerts next year.	

PartC. Practice 例子:

Q1: 這輛腳踏車有一個籃子。

Q2: 這棟樓有兩部電梯(elevator)。

Q3: 我的錢包(wallet)裡沒錢。

Q4: 長椅(bench)上有兩隻狗。

Q5: 人生中會有一些挑戰(challenge)。

Q6: 咖啡杯裡沒有咖啡。

■ 文法焦點:名詞修飾-「A of B」

PartA. Introduction to Rules 規則介紹:

- 常用規則 1: 所有者為有生命(多為人和動物)的所有格形成→ “有生命所有者's”
- 常用規則 2: 所有者為無生命或抽象概念的所有格形成→
the +所有物+of+the+無生命/抽象概念(通常亦適用於植物)
- 常用規則 3: 表時間長度、距離遠近、金錢的價值亦會使用所有格→(數字+單位)'s

PartB. Examples 例子:

編號	中文	英文	相對應規則
Ex.1	這個男孩的夾克	the boy's jacket	
Ex.2	狗狗的牙齒	the dog's teeth	
Ex.3	車子的輪胎	the tires of the car	
Ex.4	花的花瓣	the petals of the flower	
Ex.5	一個月的第一天	the first day of the month	
Ex.6	一英哩的行車	a mile's drive	
Ex.7	兩小時的訓練	two hours' training	
Ex.8	一萬元的價值	ten thousand's worth	

PartC. Exercises 練習題:

- Q1: 女孩的眼淚(tear)→ _____
- Q2: 河馬(hippo)的嘴巴→ _____
- Q3: 花的香味(fragrance) → _____
- Q4: 電視的尺寸(size)→ _____
- Q5: 開學的第一天→ _____
- Q6: 三小時的課程→ _____
- Q7: 兩公里的慢跑→ _____
- Q8: 一百萬的利益(profit)→ _____

■ 文法焦點:名詞修飾-「N+地方副詞」

PartA. Introduction to Rules 規則介紹:

說明: 描述一個地方的人事物→「人、事、物」+ preposition(介係詞)+place(地方)

〔在哪裡的什麼〕的語法在中文英文中語序對調, 中文的修飾語放前面, 英文則是在後面

PartB. Examples 例子:

編號	中文	英文
Ex.1	盤子上的食物	the food on the plate
Ex.2	地板上的垃圾	the trash on the ground
Ex.3	鄉下的農夫	farmers in the countryside
Ex.4	電影裡的配樂	the music in the movie
Ex.5	路上的行人	passersby on the road
Ex.6	這個文化裡的禮儀	the manners in this culture
Ex.7	椅子底下的貓咪	the kitty under the chair
Ex.8	池塘上方的蜻蜓	dragonflies above the pond

PartC. Exercises 練習題:

Q1: 烤箱(oven)裡的麵包→_____

Q2: 山上的風景(scenery)→_____

Q3: 故事裡的人物(character)→_____

Q4: 房間裡的電燈→_____

Q5: 書架(bookshelf)上的書→_____

Q6: 網路上的謠言(rumors) →_____

■ 文法焦點:名詞修飾-「N+with~」

PartA. Introduction to Rules 規則介紹:

說明: 中文-〔有著 + (adj.) + N1+的〕+N2

英文-N2+〔with + (adj.)+N1〕

〔有著...的什麼〕的語法在中文英文中語序對調，中文的修飾語放前面，英文則是在後面

PartB. Examples 例子:

編號	中文	英文
Ex.1	有著兩個口袋的牛仔褲	the jeans with two pockets
Ex.2	有個甜美微笑的服務生	the server with sweet smile
Ex.3	有著好聽聲音的女孩	the girl with nice voice
Ex.4	有著特別口味的飲料	the drink with special flavor
Ex.5	有著紅點的桌布	the table cloth with red dots
Ex.6	有著白頭髮的老太太	the old lady with grey hair
Ex.7	有著有趣劇情的小說	the novel with interesting plots
Ex.8	有著臭味的袋子	the bag with stinky smell

PartC. Exercises 練習題:

Q1: 有著美麗景觀(view)的房間→_____

Q2: 有著可愛圖案(patterns)的窗簾(curtain)→_____

Q3: 有著苗條(slender)身材的模特兒(model) →_____

Q4: 有著青春痘(zits)的臉→_____

Q5: 有著善心的女孩→_____

Q6: 有著美麗陽光的早晨→_____

■ 文法焦點:名詞修飾-「N+that-clause」

PartA. Introduction to Rules 規則介紹:

說明: 中文-A 的 B; A=【(S)+V】→【(S)+V】+的 B (N)

英文- B(N)+ { that/which/who + 【(S)+V】 }

中文裡〔A 的 B〕的語法當 A 不是單一詞組(如:小狗的尾巴、女孩的長髮)而是一個比較複雜的語句修飾時,可利用關係子句。此種類型的名詞修飾,中文語序不同。

PartB. Examples 例子:

編號	中文	英文
Ex.1	我們剛討論的數學問題	the math question that we just discussed
Ex.2	我們做的點心	the snacks that we made
Ex.3	你剛讀到的文章	the article that you just read
Ex.4	我最喜歡的顏色	the color that I like the most
Ex.5	你剛剛完成的報告	the report that you just completed
Ex.6	我負責的任務	the task that I'm responsible for
Ex.7	開心大笑的學生們	the students who laugh out loud happily
Ex.8	感到困惑的學生	the students who feel confused

PartC. Exercises 練習題:

Q1: 我們需要遵守的禮儀→

Q2: 我們付出的努力→

Q3: 老師給我們的提示 →

Q4: 我們經歷過的困難→

Q5: 讓我感到尷尬的場合(occasion)→

Q6: 我們去過的地方→

■ 文法焦點:動詞修飾-「Manner Adverb(情態副詞)」

PartA. Introduction to Rules 規則介紹:

說明 1: 使用時機→how something happens or is done

說明 2: 多放在句尾修飾動詞，~ly 形式的副詞也可放在句中助動詞後、
一般動詞前修飾

※注意: hard, fast, well, early, late, high, low, soon 這類副詞放句尾修飾

PartB. Examples 例子:

編號	中文	英文
Ex.1	他靜靜地聽著故事。	He (quietly) listened to the story quietly.
Ex.2	他慢慢地開(車)。	He (slowly) drives the car slowly.
Ex.3	他生氣地撕碎了信。	He (angrily) tore the letter angrily.
Ex.4	她很快地完成了任務。	She finished the task soon.
Ex.5	她晚到學校。	She arrived school late.
Ex.6	他每天認真地工作。	He works hard every day.
Ex.7	警察快跑去追搶匪	The police ran fast to catch the robber.
Ex.8	他今天早上晚起。	He got up late this morning.

PartC. Exercises 練習題:

Q1: 他慢慢刷著牙齒。→ _____

Q2: 他認真練習。→ _____

Q3: 校長(principal)嚴肅地發表演講(give a speech)。
→ _____

Q4: 女孩優雅地跳著芭蕾舞(ballet)。
→ _____

Q5: 他明天應該早點到學校。
→ _____

Q6: 他很快吃完一碗飯。
→ _____

Appendix C: Handouts for Inductive group

Class: _____ ; No.: _____ ; Name: _____

■ 文法焦點: 「有」

PartA. Example Sentence Observation 例句觀察:

編號	中文	英文
Ex.1	我有兩本書。	I have two books.
Ex.2	他有一個想法。	He has an idea.
Ex.3	小女孩有深色的長髮。	The little girl has dark and long hair.
Ex.4	那輛車有動力剎車。	The car has power brakes.
Ex.5	這花有 5 片花瓣。	The flower has five petals.
Ex.6	這張書桌有兩個抽屜。	This desk has two drawers.
Ex.7	牆上有一隻蜘蛛。	There is a spider on the wall.
Ex.8	班上有 19 位男生。	There are 19 boys in the class.
Ex.9	明天沒有課。	There will be no class tomorrow.
Ex.10	明年有兩場演唱會。	There will be two concerts next year.

PartB. Discussion about the rules: 規則討論:

(Take the following questions as reference and do the discussion.)

- Q1. 同樣都是表達「有(沒有)」，為什麼有些句子有 have/has，有些沒有，而沒有 have/has 的，又是用什麼詞彙來表達的？
- Q2. 試著分析一下句子的結構，看看主詞有哪幾類？
- Q3. 試想每一句子裡的有(沒有)」，語意都一樣嗎？要怎麼區分？

PartC. Exercises 練習題:

Q1: 這輛腳踏車有一個籃子。

Q2: 這棟樓有兩部電梯(elevator)。

Q3. 我的錢包(wallet)裡沒錢。

Q4. 長椅(bench)上有兩隻狗。

Q5. 人生中會有一些挑戰(challenge)。

Q6. 咖啡杯裡沒有咖啡。

■ 文法焦點:名詞修飾-「A of B」

PartA. Example Sentence Observation 例句觀察:

編號	中文	英文
Ex.1	這個男孩的夾克	the boy's jacket
Ex.2	狗狗的牙齒	the dog's teeth
Ex.3	車子的輪胎	the tires of the car
Ex.4	花的花瓣	The petals of the flower
Ex.5	一個月的第一天	the first day of the month
Ex.6	一英哩的行車	a mile's drive
Ex.7	兩小時的訓練	two hours' training
Ex.8	一萬元的價值	ten thousand's worth

PartB. Discussion about the rules: 規則討論:

(Take the following questions as reference and do the discussion.)

- Q1. 中文裡頭「什麼的什麼」在英文裡頭有不同的表達方式，請首先觀察一下句子的結構，中文和英文有什麼不同？
- Q2. 英文裡頭針對「什麼的什麼」不同的表達方式，請問有什麼規則可循嗎？試討論所有者和所有物的屬性，有沒有什麼規則？

PartC. Exercises 練習題:

- Q1: 女孩的眼淚(tear)→_____
- Q2: 河馬(hippo)的嘴巴→_____
- Q3: 花的香味(fragrance) →_____
- Q4: 電視的尺寸(size)→_____
- Q5: 開學的第一天→_____
- Q6: 三小時的課程→_____
- Q7: 兩公里的慢跑→_____
- Q8: 一百萬的利益(profit)→_____

■ 文法焦點:名詞修飾-「N+地方副詞」

PartA. Example Sentence Observation 例句觀察:

編號	中文	英文
Ex.1	盤子上的食物	the food on the plate
Ex.2	地板上的垃圾	the trash on the ground
Ex.3	鄉下的農夫	farmers in the countryside
Ex.4	電影裡的配樂	the music in the movie
Ex.5	路上的行人	passersby on the road
Ex.6	這個文化裡的禮儀	the manners in this culture
Ex.7	椅子底下的貓咪	the kitty under the chair
Ex.8	池塘上方的蜻蜓	dragonflies above the pond

PartB. Discussion about the rules: 規則討論:

(Take the following questions as reference and do the discussion.)

Q1. 試分析中文裡頭「哪裡的什麼」在英文裡頭句子的結構，中文和英文有什麼不同？

PartC. Exercises 練習題:

Q1: 烤箱(oven)裡的麵包→_____

Q2: 山上的風景(scenery)→_____

Q3: 故事裡的人物(character)→_____

Q4: 房間裡的電燈→_____

Q5: 書架(bookshelf)上的書→_____

Q6: 網路上的謠言(rumors) →_____

■ 文法焦點:名詞修飾-「N+with~」

PartA. Example Sentence Observation 例句觀察:

編號	中文	英文
Ex.1	有著兩個口袋的牛仔褲	the jeans with two pockets
Ex.2	有個甜美微笑的服務生	the server with sweet smile
Ex.3	有著好聽聲音的女孩	the girl with nice voice
Ex.4	有著特別口味的飲料	the drink with special flavor
Ex.5	有著紅點的桌布	the table cloth with red dots
Ex.6	有著白頭髮的老太太	the old lady with grey hair
Ex.7	有著有趣劇情的小說	the novel with interesting plots
Ex.8	有著臭味的袋子	the bag with stinky smell

PartB. Discussion about the rules: 規則討論:

(Take the following questions as reference and do the discussion.)

- Q1. 中文裡頭「有(著).....的」翻成英文，中文和英文在結構上有什麼不同？
試著分別將中文及英文裡頭針對「有(著).....的」的陳述結構寫下來。

PartC. Exercises 練習題:

- Q1: 有著美麗景觀(view)的房間→_____
- Q2: 有著可愛圖案(patterns)的窗簾(curtain)→_____
- Q3: 有著苗條(slender)身材的模特兒(model) →_____
- Q4: 有著青春痘(zits)的臉→_____
- Q5: 有著善心的女孩→_____
- Q6: 有著美麗陽光的早晨→_____

■ 文法焦點:名詞修飾-「N+that-clause」

PartA. Example Sentence Observation 例句觀察:

編號	中文	英文
Ex.1	我們剛討論的數學問題	the math question that we just discussed
Ex.2	我們做的點心	the snacks that we made
Ex.3	你剛讀到的文章	the article that you just read
Ex.4	我最喜歡的顏色	the color that I like the most
Ex.5	你剛剛完成的報告	the report that you just completed
Ex.6	我負責的任務	the task that I'm responsible for
Ex.7	開心大笑的學生們	the students who laugh out loud happily
Ex.8	感到困惑的學生	the students who feel confused

PartB. Discussion about the rules: 規則討論:

(Take the following questions as reference and do the discussion.)

- Q1. 上述例句中，中文裡頭「A 的 B」當中的 A 和「女孩的長髮」、「狗狗的尾巴」這類陳述裡頭的「女孩」和「狗狗」有什麼差別？
- Q2. 試著分別將上述中文及英文裡頭針對「A 的 B」的陳述結構寫下來。

PartC. Exercises 練習題:

- Q1: 我們需要遵守的禮儀→_____
- Q2: 我們付出的努力→_____
- Q3: 老師給我們的提示 →_____
- Q4: 我們經歷過的困難→_____
- Q5: 讓我感到尷尬的場合(occasion)→_____
- Q6: 我們去過的地方→_____

■ 文法焦點:動詞修飾-「Manner Adverb(情態副詞)」

PartA. Example Sentence Observation 例句觀察:

編號	中文	英文
Ex.1	他靜靜地聽著故事。	He (quietly) listened to the story quietly.
Ex.2	他慢慢地開(車)。	He (slowly) drives the car slowly.
Ex.3	他生氣地撕碎了信。	He (angrily) tore the letter angrily.
Ex.4	她很快地完成了任務。	She finished the task soon.
Ex.5	她晚到學校。	She arrived school late.
Ex.6	他每天認真地工作。	He works hard every day.
Ex.7	警察快跑去追搶匪	The police ran fast to catch the robber.
Ex.8	他今天早上晚起。	He got up late this morning.

PartB. Discussion about the rules: 規則討論:

(Take the following questions as reference and do the discussion.)

Q1.上述例句中，中文裡頭的情態副詞和動詞的位置關係是?

Q2.上述例句中，英文裡頭的情態副詞和動詞的位置關係是?

Q3. 在英文中，哪類副詞的位置較有彈性? 哪些是較固定的?

PartC. Exercises 練習題:

Q1: 他慢慢刷著牙齒。→ _____

Q2: 他認真練習。→ _____

Q3: 校長(principal)嚴肅地發表演講(give a speech)。
→ _____

Q4: 女孩優雅地跳著芭蕾(ballet)。
→ _____

Q5: 他明天應該早點到學校。
→ _____

Q6: 他很快吃完一碗飯。
→ _____

Appendix D: Formative Test

Test 1 (Existence Sentence)

Class: _____ ; Name: _____ ; No.: _____

1. 有一張建議售價表(suggested price list)在牆上。

2. 這一單元(lesson)有兩個實驗(experiment)。

3. 報紙裡有一個廣告(advertisement)。

4. 這台機器(machine)有兩個按鈕(button)。

5. 這個考試有 50 題題目。

6. 這本書有一個很漂亮的封面(cover)。

7. 這棵樹有一個粗壯的(strong)樹幹(trunk)。

8. 一台鋼琴有 88 個琴鍵(key)。

9. 樹上有好多蘋果。

10. 在法國(France)有很多用餐習俗(dining customs)。

Test 2 (Modifiers of nouns:of-genitive)

Class: _____ ; Name: _____ ; No.: _____

1. 促發效應(priming effect)的影響(influence)很強大。

2. 我們會討論(discuss)實驗(experiment)的結果(results)。

3. 花的圖被換成人眼(human eyes)的圖。

4. 大家都知道健康的重要性(importance)。

5. 我不確定比賽(competition)的日期(date)。

6. 我們可以選擇(choose)餐點(meal)的口味(flavor)。

7. 三小時的車程很疲累(tiring)。

8. 河馬(hippo)的嘴巴很大。

9. 這個男孩的帽子(cap)不見了(missing)。

- 10 公里的馬拉松(marathon)是一個挑戰(challenge)。

Test 3(Modifiers of nouns: prepositional phrase)

Class: _____; Name: _____; No.: _____

1. 課本(textbook)裡的數學題(math questions)很簡單。

2. 房間裡的音樂太大聲(loud)。

3. 百貨公司(department store)裡的購物者(shoppers)很瘋狂(crazy)。

4. 我看了桌上的菜單(menu)。

5. 在印度(India)的人們用手吃東西。

6. 在籠子(cage)裡面的寵物(pet)很可憐(poor)。

7. 臉上的青春痘困擾(confuse)著我。

8. 電影裡的角色(role)很有吸引力(attractive)。

9. 這間店的商品(product)很貴。

10. 來自最好朋友的一通電話讓我感覺好多了。

Test 4 (Modifiers of nouns: *with* phrase)

Class: _____ ; Name: _____ ; No.: _____

1. 我要丟掉(throw away)有著臭味(stinky smell)的袋子。

2. 我想念(miss)有著甜美回憶(memories)的童年(childhood)。

3. 有著壞脾氣的人不受歡迎。

4. 人們喜歡有著美麗圖片的書本。

5. 我想要有個陽台的房間。

6. 老闆拒絕(reject)有著很多問題(problem)的計畫(project)。

7. 有著大眼睛的女孩是我的妹妹。

8. 我買了一台有著籃子的腳踏車。

9. 我享受著有著美麗夕陽的傍晚。

10. 我想要嘗試一下有著特別口味的比薩。

Test 5 (Modifiers of nouns: that-clause)

Class: _____; Name: _____; No.: _____

1. 他去年買的電腦壞掉(broken)了。

2. 我讀的這首詩(poem)很有名(famous)。

3. 我不再(no longer)是感到無助(helpless)的人。

4. 我很喜歡這間店播放的音樂。

5. 她告訴我的話很有意義(meaningful)。

6. 作者描述(describe)的畫面(scene)很生動(vivid)。

7. 我不想要說讓我感到難過的事(thing)。

8. 你告訴我的答案是錯的。

9. 坐在椅子上的孩子是我的表兄弟姊妹(cousins)。

10. 去年舉辦的派對很令人難忘(unforgettable)。

Test 6 (Modifiers of verbs: manner adverbs)

Class: _____; Name: _____; No.: _____

1. 他很早到(arrive)辦公室(office)。

2. 他很快吃完他的餐點(meal)。

3. 小女孩開心地玩她的洋娃娃(doll)。

4. 我的爸爸小心開車。

5. 這位學生誠心地(sincerely)感謝他的老師。

6. 他遲交(繳交:hand in)作業。

7. Miranda 打字(type)很快。

8. 人們高舉雙手以表(express)支持(support)。

9. 她傷心地說著她的故事。

10. 女孩正緊張地找她不見的手機。(找:look for)

Appendix E: Post-test of the study

Translation Practice II (中翻英練習 II)

Class: _____ No.: _____ Name: _____

- ◆ 請將下列句子翻譯成英文 (請同學參考下列的單字盡量完成每一句的翻譯，請勿留空白)

Word Bank (參考用字):

- | | | | | |
|---------------|-------------|-------------|--------------|------------------|
| ◎ 酸民 troll(s) | ◎ 心情 mood | ◎ 主題 topic | ◎ 誠實 honesty | ◎ 重要性 importance |
| ◎ 秘密 secret | ◎ 欣賞 admire | ◎ 身材 figure | ◎ 模特兒 mode | ◎ 雜誌 magazine |
| ◎ 文章 article | ◎ 告訴 tell | ◎ 故事 story | | |

1. 網路上有許多酸民。

2. 我喜歡這首歌裡的心情。

3. 山上的雪很美。

4. 他很快完成了他的作業。

5. 我喜歡雜誌的主題。

6. 我喜歡有著大眼睛的嬰兒。

7. 老師告訴我誠實的重要性。

8. 我想知道他跟你說的秘密。

9. 我欣賞有著完美身材的模特兒。

10. 他今天很早到辦公室。

11. 雜誌裡有許多文章。

12. 我記得他告訴我的故事。

Appendix F: Translation reflection report

中文說明:此份紀錄將為教學效益評估使用及學術研究參考，請同學就自己的學習歷程及翻譯過程詳實填答，填答內容將由老師保密，不會公開，請同學們放心!

English Explanation:

This report is designed for the evaluation of teaching effectiveness and academic research. Please complete the questionnaire based on your true learning experience and translation process. Your reply will be kept in confidential. Don't worry that your personal feedback will be revealed in public.

Instructor: Miranda

Q1: 學習六個文法焦點之前，你/妳已經學過並精熟的有哪幾個? (可複選)

<input type="checkbox"/> There is/are	<input type="checkbox"/> A of B
<input type="checkbox"/> N+ 地方副詞(“哪裡”的什麼)	<input type="checkbox"/> N+ with~ (有著...的 N)
<input type="checkbox"/> N+that-clause (關係子句修飾名詞)	<input type="checkbox"/> Manner Adverb (修飾動詞的情態副詞)

Q2: 請比較六個文法焦點的講義的和課本裡面的 Grammar Focus 在教法上或是文法內容的呈現上有什麼不一樣?

Q3: 在學習六個文法焦點之前，有沒有注意過中英文句子句法排列上的不同?

☐ 有注意到 ☐ 沒有特別注意

Q4: 在翻譯的過程中，你/妳是如何下筆的，如何分解中文的句子再翻成英文?

Q5: 在翻譯的過程中，你/妳覺得最困難的地方是?

Q6: 學習過六個文法焦點之後，在翻譯上對你/妳翻譯的能力有沒有幫助?

哪方面的幫助?

Q7: 當六個文法焦點題目混在一起時，你/妳能夠很快分辨要使用哪一種文法焦點的句式來翻譯嗎?

☐ 可以，我能很快判斷 ☐ 不太行，我需要想一下

Q8: 對你/妳而言，六個文法焦點的難易度排序? (請圈難易度分數→簡單-困難:1-5 分)

Grammatical-structure	Difficulty-rate
There is/are	Easy-----Difficult 1. 2. 3. 4. 5.
A of B	Easy-----Difficult 1. 2. 3. 4. 5.
N+ 地方副詞(“哪裡”的什麼)	Easy-----Difficult 1. 2. 3. 4. 5.
N+ with~ (有著...的 N)	Easy-----Difficult 1. 2. 3. 4. 5.
N+that-clause (關係子句修飾名詞)	Easy-----Difficult 1. 2. 3. 4. 5.
Manner Adverb (修飾動詞的情態副詞)	Easy-----Difficult 1. 2. 3. 4. 5.

Q9: 希望日後老師在教學上多給予的協助是?