SPOKEN GRAMMATICALITY AND EFL TEACHER CANDIDATES: MEASURING THE EFFECTS OF AN EXPLICIT GRAMMAR TEACHING METHOD ON THE ORAL GRAMMATICAL PERFORMANCE OF TEACHER CANDIDATES

DISSERTATION

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ABSTRACT

Training in spoken grammatical accuracy at professional levels in English teacher education programs to ensure teaching quality is a program component. However, English as a foreign language (EFL) teacher education programs typically do not focus on this area in Taiwan. The present research employed a pretest-posttest control group experimental design to investigate the effects of an explicit grammar teaching method on a group of English teacher candidates’ spoken grammatical accuracy.

The main purpose of the study was to investigate if the proposed teaching method would improve the teacher candidates’ oral English proficiency with respect to grammaticality, and if so, to what extent? Moreover, in light of concerns that second language speakers’ attention to accuracy may impaired their fluency, the research also studied if explicit grammar instruction would impair speaking fluency of the teacher candidates.

The research site was the Children English Teacher Education Program housed within National Taipei University of Education. Thirty-six participants were randomly assigned to two levels of the treatment on English conditional
structures for five sessions of grammar instruction. The instrument used to measure the participants’ performance on the pretest and posttest was the one-on-one oral interview. The data was analyzed using the ANCOVA procedures, controlling for any initial difference between two study groups.

The study findings suggested that grammar instruction could improve spoken grammatical accuracy of English teacher candidates in Taiwan, who are advanced English learners. In addition, the increased grammatical accuracy was not obtained at the expense of fluency.
Dedicated to my parents,

who have always loved me and been there for me.

我要將得到博士學位的這份榮耀，

獻給我最親愛的爸爸媽媽，

謝謝你們從小到大一路以來的呵護，栽培，和支持！
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CHAPTER 1

INTRODUCTION

Improving my spoken English, especially with respect to grammatical issues, is a goal that I would love to accomplish and feel obligated to achieve. However, it does not seem to be very necessary since I do not have to use very much English during the classes that I teach. Even when I make grammatical mistakes occasionally, my students would not pay too much attention to those mistakes because they generally would not recognize them as mistakes given their poor English.

Ming Wong, 2005

1.1 Overview of the English Teacher Education Situation in Taiwan

One of the most abiding and discernible disjunctions in English teacher preparation programs in Taiwan is between the desire for teacher candidates to attain a professional level of spoken performance and the linguistic reality that
they are not proficient in the use of accurate grammatical structures. This discrepancy has been recognized but not addressed, mainly due to the Chinese Confucian philosophy that emphasizes respect for the teaching profession. In the Confucian philosophy, teachers and their knowledge of the subject matter are honored and rarely questioned. Inasmuch as teachers are deemed to be an authority, and teachers typically have a wider and deeper breadth of knowledge in the content areas than their students, a paucity of research to date has investigated the quality of teachers' subject knowledge. Since Taiwanese culture does not encourage criticism and evaluation of a teacher's knowledge, studies that aim to put forth constructive plans to improve in-service and pre-service English as a Foreign Language (EFL) teachers’ speaking skills are not often available.

Another reason why the abilities of teachers are not examined enough is related to admission criteria of teacher education programs in Taiwan. In general, admission to these programs, particularly English Education, is relatively selective in Taiwan. This high standard has made the public believe that the previous knowledge of teachers is sufficient and correct, even if this is not always the case.

The relatively high admission criteria have also led English teacher education programs to assume that their teacher candidates have good speaking skills. Prior to admission, teacher candidates were required to provide proof of
advanced English proficiency. The evidence typically includes passing scores on
the TOFEL, Taiwan General English Proficiency Test, and/or the entrance exams
administered by individual programs. Moreover, when English teacher education
programs are at a graduate level, a bachelor’s degree in English is usually
required. Provided with these proofs that mainly examine the English written
proficiency, English teacher education programs can easily fail to see that
coursework on and subsequent professional development in the spoken English
skills are needed. As a result, English teacher education programs are devoted
primarily to nurturing their candidates with pedagogical knowledge and teaching
skills. Although language courses are still offered in English teacher education
programs, the purpose of these courses is typically to “maintain” their proficiency
rather than to study the existing difficulties or problems in teacher candidates’
language performance and “improve” their language skills (Shih, 2001).

In most school districts in Taiwan, English is one of the required subjects
for grades 3 through 12. In grades 3-12 English classrooms, few school curricula
require their English teachers to conduct classes using English, which in turn,
results in a decline in the demands for spoken grammatical accuracy. Even in
the schools where English teachers are commit to teaching English using
English, their speaking skills can still be questionable but not questioned. The
actual school practice in grades 3-12 in Taiwan, therefore, also mitigates the
needs for an English teacher to speak well.
Development in the spoken accuracy of English teaching professionals has received little attention both in university education and classroom teaching practice. One of the most popular counter arguments against the importance of spoken accuracy can be that speaking correctly is not essential for an English teacher to accomplish her primary job objective, which is to help her students pass different types of written exams. However, this perspective does not rationalize the poor efforts of university education or teachers themselves in elevating the performance in spoken grammaticality. The extent to which an English class in Taiwan is considered successful may not hinge on teachers' spoken accuracy or their speaking skills in general, but only knowing what is directly taught to students is not enough for a teaching profession.

When individuals discuss whether or not grammar should be taught in language classrooms, they should be asking how and when to teach it (Ellis, 2002). Canale and Swain (1980) identified language performance by way of four components. Arrayed in a hierarchical progression are grammatical or linguistic competence, discourse competence, sociolinguistic competence, and strategic competence. This notion acknowledges the importance and priority of formal linguistic features in forming one’s language performance. Where and when, then, should grammar be taught? Should grammar be taught in classroom settings? Although Krashen (1985) did not argue against the role of grammatical accuracy in learning second languages (L2), he claimed that the best scenarios
classroom teachers can hope to provide are conditions conducive to experiential language learning. In addition, Krashen reminded second language educators that any manipulative attention to form may hamper this attempt. Doughty (2005) challenged this argument. Based on empirical studies, Doughty pointed out that many linguistic forms are not learned in purely communicative environments and that the lack of classroom instruction is eventually detrimental to learners’ formal accuracy. In light of this concern, class instruction on spoken grammatical accuracy is proposed to be incorporated into English teacher preparation programs to improve the speaking skills of teacher candidates.

1.2 Statement of Problem

Grammatical accuracy is prominently identified as one of the vital elements in language competence and, thus, cannot be omitted if one would like to achieve professional levels of spoken English (Leaver & Shekhtman, 2002). However, issues regarding spoken grammatical accuracy of advanced learners have only received modest attention (Leaver & Shekhtman, 2002). As the topical conversation range widens to include advanced levels, the content becomes less predictable. In addition to the increasing complexity in conversation content, prompt responses with accurate information delivered at a natural pace are also expected from proficient interlocutors. Therefore, fluency in communication gradually minimizes the importance of grammaticality. Moreover, speaking with poor accuracy is not consistently an impediment for advanced second language
speakers from being understood. Therefore, compromising accuracy for timely flow typically is not perceived as a poor choice. However, is speaking ungrammatically really free of problems? In some cases such as casual conversations, speaking inaccurately would probably cause an uncomfortable feeling and impatience at worst. Yet, in the case of teaching professionals, the consequences of poor accuracy are potentially detrimental to students.

The need for English teachers to speak grammatically brings up the next question: can classroom instruction help teacher candidates improve their grammatical accuracy? A number of prominent scholars have argued that pedagogical instruction is absolutely necessary based on concerns about ultimate attainment in grammatical accuracy (Ellis, 2002). Research has shown that language learners cannot get too far without grammar instruction. The results of research on English learners of Spanish, for example, suggest that classroom learners, on the whole, outperform non-classroom learners in grammatical accuracy (VanPatten, 2002).

This assertion is also supported by the research on the language competence of Canadian English-French bilinguals in their L2 immersion schools (Allen, Swain, Harley, and Cummins, 1990). In immersion schools, comprehensible input is available at all times, and instruction on the target language is minimally intrusive. According to Krashen’s Input Hypothesis (1985), these immersion schools are the best possible natural learning environments for
second language acquisition. Given such an opportunity, the performance of these bilinguals is on a par with the listening, reading, and cognitive abilities of native speakers. However, the productive abilities, speaking and writing, are apparently non-native, and the typical problem remains with grammatical accuracy both in written and spoken language (Allen, Swain, Harley, and Cummins, 1990). This finding suggests the importance of pedagogical focus-on-form interventions. These interventions are meant to draw learners’ attention to persistent grammar problems during language use in classrooms that are otherwise meaning-oriented. Even near-native L2 learners, like the Canadian English-French bilinguals who have extensive exposure to the target language, are suggested to use the help of formal instruction to enhance their grammaticality, not to mention English teacher candidates in Taiwan.

Some other studies, however, have provided different perspectives on grammar instruction. Larsen-Freeman and Long (1991) stated that instruction on grammar has little to no effect on performance because acquisition orders may well be immutable. Pienemann (1989) further claimed that when the instruction is cognitively too much for second language learners, the detriment in the forms of regression or backsliding would arise. In other words, these two claims have revealed that any attempt to violate a sequence of development and push acquisition of a form before it is scheduled to be acquired by the learner can result in a delay in acquisition. This outcome is the opposite of the purpose of
any instruction. Insights to their claims, derived from Universal Grammar, are noteworthy but should not be taken to decline the value and contribution of L2 classroom grammar instruction.

What type of classroom grammar instruction can work in an advanced English classroom setting, such as English teacher preparation programs in Taiwan? When it comes to the discussions of grammar instruction, the degree of explicitness is often used as an indicator to categorize grammar instruction into different types. The degree of explicitness can be generally understood as how far the form is detached from the meaning during the instruction. Many argue against explicit grammar instruction for its providing the learner with little opportunity to use the language. Nonetheless, VanPatten (1996) pointed out that the issue of the distinction between explicit instruction and implicit acquisition at advanced or professional levels no longer holds the spotlight in SLA research. For VanPatten, moreover, explicit focus on form instruction is required to reach distinguished grammatical accuracy. The remark of VanPatten has reminded researchers and teaching professionals of two things. First, teaching and learning in advanced levels differs from that of beginning or intermediate levels. Secondly, what needs to be done is to investigate teaching methods to help advanced learners pay attention to linguistic forms and improve accuracy, regardless of the explicitness or implicitness of grammar instruction.
However, in the review of the literature about grammar instruction, the researcher has found that most research has been carried out to investigate the pedagogical interventions at novice and intermediate levels (Ellis, 2002). The studies that are committed to researching focus-on-form instruction at advanced or professional levels do not receive as much attention as they should. The two main reasons for a small quantity of research in this area can be summarized as that the number of advanced classrooms is relatively small, and that most advanced or professional classrooms are devoted to developing learners’ fluency (Leaver & Shekhtman, 2002). Without a careful investigation, comments on how grammar instruction can influence the performance of an advanced learner or how an advanced learner can benefit from grammar instruction are not available. Further research on this topic is needed.

In addition to the research gap described above, the quality of training with respect to spoken grammatical accuracy offered by English teacher preparation programs in Taiwan has not been extensively researched. Beside the problem of the quality, the quantity of available coursework in this specific area is also low and remains to be investigated. Studies on feasible teaching methods, particularly targeting teacher candidates’ oral accuracy, should be conducted. Without some options in teaching methods being suggested by empirical research, English teacher education programs can find it difficult to offer training programs or courses that have been systematically researched and designed.
Motivated by these gaps, insufficient empirical research in grammar instruction at advanced levels and in English teacher preparation programs in Taiwan, the researcher proposed Experienced Explicit Grammar Instruction (Wu, 2004) as a pedagogical device to investigate the effect of explicit grammar instruction on Taiwanese teacher candidates’ spoken accuracy.

1.3 Purposes of the Study

First, this research was conducted to investigate if Explicit Experienced Grammar Instruction could improve teacher candidates’ spoken grammatical accuracy, and if so, to what extent. Second, since English teacher candidates are typically advanced English learners, the research was conducted to investigate the degree to which instruction could help advanced English learners improve oral grammaticality. Moreover, as the secondary research question, the present research also investigated if grammar instruction would impact second language speakers’ fluency. Research findings for the second question could help the field of second language acquisition (SLA) understand the relationship between fluency and accuracy. Finally, the present study could motivate more research with respect to language classroom practice at advanced levels and emphasize the importance of spoken accuracy in EFL teachers’ language proficiency. Thus, language teacher education programs could appropriately incorporate coursework on English spoken grammatical accuracy into their curriculum. As a
result, not only can teaching professionals improve their second language proficiency, but also their students can benefit from their teachers’ enhanced grammatical competence.

1.4 Research Questions

Reviewing research regarding the input process, focus-on-form instruction, issues of attention and awareness in foreign language learning, and creating experiences in using the target language, the research recommended a grammar teaching method called Explicit Experienced Grammar Instruction (EEGI) to enhance L2 learners’ spoken accuracy. An introduction to EEGI is presented in section 3.4 The Treatment. In the literature, most studies investigating effects of teaching methods were conducted with either a true experimental or a quasi-experimental design. Therefore, to best serve the purposes of the study as stated in the previous section, an experimental design was used. Two main research questions were:

1. Does Explicit Experienced Grammar Instruction have a positive effect on spoken grammatical accuracy of English Teacher Candidate in the English conditional structures?

2. If a positive effect is shown, what is the effect size?

The secondary question was:

3. Does Explicit Experienced Grammar Instruction impair spoken fluency of English teacher candidates in their use of English conditional structures?
1.5 Hypotheses

Based on the main research questions, the hypothesis of the present study was the following: the experimental group, which received the Explicit Experienced Grammar Instruction, outperformed the control group in terms of spoken grammatical accuracy in the posttest. The hypotheses were tested at the significance level of 0.05.

Ho: $\mu_{\text{experimental, posttest accuracy}} - \mu_{\text{control, posttest accuracy}} \leq 0$

H1: $\mu_{\text{experimental, posttest accuracy}} - \mu_{\text{control, posttest accuracy}} > 0$

The hypothesis for the secondary research question was the control group outperformed the experimental group on the aspect of spoken fluency in the posttest. The hypotheses were formulated with the significance level of 0.05.

Ho: $\mu_{\text{experimental, posttest fluency}} - \mu_{\text{control, posttest fluency}} \geq 0$

H1: $\mu_{\text{experimental, posttest fluency}} - \mu_{\text{control, posttest fluency}} < 0$

1.6 Significance of the Study

No language learner desires to speak a foreign language with poor accuracy. However, speaking a foreign language with a high degree of accuracy is never easy. The challenge this poses is the same for non-native language teachers and their classroom students alike. For language teachers and any other language learners, the goal of speaking with a professional level of accuracy cannot be achieved simply by knowing the rules. To arrive at the goal, language learners need to possess knowledge in grammar and experiences of
encountering and using the target forms. Moreover, in a classroom setting, including English teacher preparation programs and grades 3-12 English classes, language instructors’ capability to speak grammatically can also be influential on their learners’ spoken skills. English instructors and English teacher candidates, therefore, need to constantly develop their language skills in spoken accuracy, not only for the benefits of themselves as advanced learners but also for the best interest of their students.

The present research, including its literature, the instruction method, and its findings, is significant for the Ministry of Education in Taiwan. Learning English is more popular than ever in Taiwan. Because of such a big demand for learning English, there is also a big demand for English teachers. When the governmental policy with respect to the issues concerning teacher preparation is quantity-oriented, quality of English teacher education programs and their graduates naturally receives relatively less attention. The present study provided the theoretical reasons and indicated practical needs for each individual in-service teacher and teacher candidate to advance their spoken accuracy. These needs can be satisfied only if the Ministry of Education is also aware of the significance of English spoken accuracy, understands the consequence of a lack of it in English teacher education, and, finally, takes action to promote its role in English classes across the board.
In addition, the present research is significant to English teacher preparation programs in Taiwan and other countries. The study not only reiterated the importance of grammaticality but also suggested a teaching method that English teacher preparation programs can use with proper adjustments. As a result, teacher candidates would have an opportunity to receive instruction on their spoken accuracy that is otherwise unlikely available or stressed. Classroom language learners can also potentially benefit from the present research as their instructors would be better prepared in their teacher education programs. Finally, the results of the present research can contribute new insights to the field of L2 grammar instruction.

1.7 Basic Assumptions of the Study

1. Thirty-six participants in the present research were assumed to possess the ability to orally communicate in English with little or no problems. That is, they were assumed to be capable of actively participating in the tasks at Step 1-5 in the Explicit Experienced Grammar Instruction.

2. The main research hypotheses were directional. Therefore, the treatment of the Explicit Experienced Grammar Instruction was assumed to have positive effects on the measured performance or zero effect at worst. Deterrents, namely negative effects, to the measured performance were predicted to be unlikely to arise.
3. The implementer was assumed to be able to successfully communicate English conditional structures to the participants. In addition, the implementer was also assumed not to have preference in favor of Explicit Experienced Grammar Instruction. Based on these two assumptions, the implementation of the treatment should not have threatened the internal validity.

1.8 Limitations of the Study

1. The limitations of the Pretest and Posttest Control Group design used in the present research were a matter of generalizability. The pretest may have sensitized the participants in certain ways so that the experimental group likely responded to the treatment differently from those who were not given any pretest. Therefore, external validity remained a limitation in this study.

2. Although the participants were randomly assigned to two levels of treatment, the sampling procedure was not random. Due to the nature of purposive sampling procedures, one must be cautious about generalizing the results from this sample to the population at large.

3. The posttest was given three days after the last session of the treatment; therefore, delayed effects could not be measured. Also, because no future posttest was administered, enduring effects were not to be observed.
1.9 Constitutive and Operational Definitions of Variables

• Spoken grammaticality

The present study centered on spoken English. Therefore, grammaticality refers to oral grammatical utterances. That is, linguistic forms and sentence structures in oral performance conformed to descriptive grammar rules of English. For example, the sentence “if my grandfather has been still alive in 2003, he would be 100 years old” is not grammatical, but “if my grandfather had been still alive in 2003, he would have been 100 years old” is grammatical (Celce-Murcia & Larsen-Freeman, 1999, p. 551). Spoken grammaticality was an interval-level dependent variable, and it was defined using the Oral Interview. The grading rubrics and scoring procedures for the oral interview are described in section 3.3 Outcome Measure.

• Spoken grammatical accuracy

Please refer to spoken grammaticality.

• Explicit grammar teaching method

Explicit grammar teaching methods are defined as classroom teaching approaches which are committed to overtly drawing learners’ attention to and providing clear explanations of linguistic elements as they arise incidentally in lessons whose overriding focus is not necessarily on linguistic code features. In the present study, the method Experienced Explicit Grammar Instruction (EEGI) was one of the two levels of the treatment assigned to the
experimental units.

X = no instruction

X1 = Explicit Experienced Grammar Instruction

• Oral grammatical performance

  Please refer to spoken grammaticality.

• Spoken fluency

  Spoken fluency refers to foreign language learners’ ability to produce natural, rapid, flowing speech. Fluent utterances, however, are not necessarily grammatically accurate speech. Spoken fluency was a continuous dependent variable in the secondary research question, and it was defined using the Oral Interview. The grading rubrics and scoring procedures for the oral interview are described in section 3.3 Outcome Measure.
CHAPTER 2

LITERATURE REVIEW

2.1 Overview

Grammar teaching receives many challenges in language education. Research findings with respect to language successes in immersion schools or communicative language teaching (CLT) classrooms have led to a virtual taboo on pedagogical interventions in grammar. One of the reasons for such aversion remains the concern of speaking fluency, which usually refers to temporary fluency. In other words, attention paid to grammaticality, which aims at accuracy, are considered an impediment to fluency during communication. Countering this perspective, Doughty (2002) argues that a long-term study reporting that focus on form retards the development of communicative fluency is not available. At the same time, while evidence of attention to form hindering fluency is missing, the study of Harley (1989) lends support to the view that instructional focus on form is a promising approach for promoting L2 accuracy. Moreover, Christensen and Noda (2002) pointed out that typically fluency can be obtained through
repeated practices, and practices can help second language learners make fluent connection between what they explicitly know and what they implicitly do. In other words, efforts paid to improving accuracy should not be the blame for someone’s being not fluent. Issues of effectiveness and impacts of grammar instruction on L2 accuracy continue to invite discussions. In the following section, these controversial arguments are reviewed.

Another challenge faced by grammar teaching concerns the nature of how language is viewed. Proponents of CLT view language as a system of expressions (Nunan, 1999), and the ultimate goal for learning language is to communicate meanings to others. Hymes (1972) argued that there are rules of use and without which the rules of grammar are useless. This perspective on the communicative functions of language has prioritized meaning over rules as a goal of language teaching and learning in the classroom settings. While the significance of language learners’ communicative skills is recognized, Terry (1986) argued “without an appropriate and sufficient grammar base, no one can communicate effectively using only a list of vocabulary words” (p.524). Swain (1985) also stated that communicative functions in language cannot take credit for the fact that language contains vocabulary words, phrases, and grammatical structures. Since the handling of linguistic properties in language has an impact on one’s performance, Canale and Swain (1980) expanded Hymes’ communicative competence to encompass grammatical competence as one of
the essentials for one to communicate well. Savignon (1983) acknowledged the role of grammatical competence and pointed out that when the pedagogical tasks in classrooms predominantly focus learners’ attention on meanings, learners can easily lose the accuracy for the desired target forms. Therefore, Swain continued to remind language teaching professionals that neglecting grammar in teaching could let students think that sloppy English is tolerated, which is an undesired mind-set for L2 learners to have. The arguments for the influential role of accuracy are advanced here in particular to support the researcher’s belief that spoken accuracy is critical for L2 learners’ communicative skills; it is even more consequential for English teacher candidates’ teaching quality. However, as Valette (1994) summarized in her article in which she lent the support to spoken accuracy, both accuracy and fluency are important qualities in one’s performance. That is, efforts paid to improve one should not diminish the significance of the other.

The role of attention is frequently addressed in SLA research, especially in the discussions of instructional focus on form and explicit teaching. Scholars like Krashen (1985), Felix (1981), and Dulay and Burt (1973), who promoted purely communicative L2 teaching and emphasized on universal process of language learning, claimed that “conscious learning” is minimally influential on learners’ L2 performance in communication. However, the typical position in psychology and cognitive science is that it is not possible for learning to take place with attention.
Schmidt (1995) further accentuated the significance of attention in SLA by stating that explicit instruction on form does not lead directly to a understanding or productive use, but consciousness-raising is valuable to the extent that it helps learners organize input they encounter, facilitate understanding, and boost or support natural acquisition processes. Research on the role of attention is described in the following section.

In order to ensure quality teaching, English teacher candidates are held accountable for demonstrating their spoken language proficiency at professional levels. However, training aimed at spoken accuracy is not usually emphasized or offered throughout English teacher preparation programs or subsequent teacher professional developments in Taiwan. Moreover, in the review of major teaching methods used in advanced language classrooms, Leaver and Shekhtman (2002) offered possible explanations of why an advanced language learner’s performance has not reached a professional level. The reasons can be summarized as grammar rules introduced in isolation, overemphasis on meanings, and lack of experience using target languages. In light of these disadvantages and the needs for non-native English teacher candidates to improve oral grammatical accuracy, *Explicit Experienced Grammar Instruction* (EEGI) was proposed in the present study to enhance English teacher candidates’ spoken accuracy.
Research studies and theories with regard to grammatical instruction, spoken accuracy, role of attention in learning, English teacher education programs in Taiwan, and an overview of EEGI are reviewed in this chapter. The literature is used to provide a theoretical ground for the teaching method, *Explicit Experienced Grammar Instruction*, used in the present study. In addition, the literature is reviewed in an attempt to promote English teaching professionals’ awareness of the possible consequential influence of their spoken accuracy on their teaching quality.

### 2.2 Grammar Instruction

*We do not consider leaving learners to their own device to be the best plan. Does this mean that practitioners should take up the opposite position that (instruction) is appropriate…for all learners all the time? We think not, and that, between the two poles, there are many ensuing pedagogical decisions to be made. At the outset, it must be said that it is not the case that adult second language acquisition cannot take place in the absence of instruction…; for many learners, clearly much of it can. However, our interest is not limited to what is merely possible, but extends to a determination of what would comprise the most effective and efficient instructional plan given the normal constraints of acquiring a second language in the classroom.*

(Doughty and Williams, 1998a, p.197)

The present study acknowledges the primacy of positive input of and exposure to target languages in the development of second language competence and the impossibility of teaching all the grammar rules in one
language. Therefore, the issues motivating the present research concerned the following question: *when positive input has been already made available to English teacher candidates who are advanced L2 learners, could grammar instruction help them with L2 spoken accuracy in their teacher education programs?* This question arouse from one of the research questions in the study of Allen, Swain, Harley, and Cummins (1990). They asked whether L2 learners are able to develop a native-like all-around competence as a result of *communicating*. The findings of their research on the language competence of Canadian English-French bilinguals showed that the grammatical competence in their speaking and writing skills was not as developed as the natives. The bilinguals, who had been immersed in their L2 at school for most of their academic careers, had the most favorable opportunities for functioning in the L2. However, this best possible context for L2 learning did not appear to lead to high levels of grammatical competence. One of a number of explanations for this finding is that “fully successful classroom language learning requires *formal instruction*” (Ellis, 2002, p.612).

Formal instruction in SLA research has been understood as “grammar instruction” (Ellis, 2002). SLA research centering on “grammar” has a pedagogical and theoretical motivation. For language teaching, research on grammar can help language teachers understand the factors that account for the result of instruction. For theory building, research can explore the relationship
between the linguistic environment and the learner’s cognitive processing mechanisms. Research investigating the question of whether formal instruction results in better L2 learning has examined the effects of formal instruction on production accuracy, sequence of acquisition, and its durability. Generally, research addressing these areas has viewed formal instruction as a pedagogical device involving a focus on form and corrective feedback (Ellis, 2002). From this perspective, this type of research can provide insights into the nature of the relationship among instruction, L2 learning, and the process of acquisition. However, without further investigations into a number of teaching methodological options, suggestions with regard to “what kind of grammar instruction works better” cannot be made for L2 teaching professionals. Therefore, in addition to the research that examines the effects of formal instruction, studies on the effects of different types of formal instruction are also reviewed in this chapter.

Instruction directed at the grammar structures is easily associated with a picture where rules are presented in isolation. However, instruction directing attention to form does not have to preclude concomitant language examples. The extent to which that grammar rules are isolated from examples is determined by the nature of formal instruction, and it is on a continuum with explicit and implicit instruction at the polar ends. In an implicit treatment, learners are to induce the rules from the given random language samples. On the other hand, with explicit grammar instruction, learners are explained the grammar rules which are
deductively applied in the subsequent practice (Ellis, 2002). Despite the theoretical premises, they are not mutually excluded when it comes to classroom practice. The research conducted by N. Ellis (1991) indicated that learners in a “structured treatment,” the provision of explicit rules in conjunction with examples of how they were realized, outperformed the explicit group. Moreover, the explicit group did better than the implicit group in the learning of rules of soft mutation in Welsh. The difference between the structured and explicit treatment in N. Ellis’s study conforms to the distinction between a focus on form and a focus on forms (Long, 1991). A focus on forms refers to grammatical rules that are discretely presented to learners. On the other hand, Long pointed out that “focus on form…overtly draws students’ attention to linguistic elements as they arise incidentally in lessons whose overriding focus is on meaning or communication” (p.45-46). The attention is incidentally made to linguistic features when the difficulties arise in comprehension or production. In other words, as elucidated by Doughty and Williams (1998), a focus on form requires a prerequisite engagement in meaning before treatments to the problematic linguistic features can be expected to be effective. The underlying assumption of a focus on form instruction is that “meaning and use must already be evident to the learner at the time that attention is drawn to the linguistic apparatus needed to get the meaning across.” (p.4)
Formal instruction can be delivered through at least two forms, implicit and explicit. Explicit grammar instruction is to draw learners’ attention to target linguistic structures by clearly and systematically explaining, for example, how to form a past tense. With a high degree of explicitness, the focus of teacher candidates is directed to forms, which they learned and used at some point in time, to enhance their awareness of the linguistic features. Doughty and Williams (1998) suggested that learning rules deductively through explicit instruction could reduce time spent discovering the patterns. In addition, explicit grammar instruction could lower the possibilities that L2 learners make wrong hypotheses about the L2 grammar, which is likely to happen when learners generate rules on their own based on the language samples they picked up randomly.

2.2.1 Theoretical Positions For and Against Grammar Teaching

Krashen (1982) claimed that language learners have two separate knowledge systems, acquired and learned systems. The acquired system is developed by means of a subconscious process, which is activated when learners are using language for communication. In contrast, knowledge in the learned system is a result of a process in which L2 learners consciously attends to linguistic properties in order to understand and/or memorize grammatical rules. These two systems, according to Krashen, do not interact whatsoever. In other words, the learned knowledge can never be converted into the acquired system regardless of the amount of practice. Advocating the position that natural
communication is geared by the acquired knowledge, Krashen argued that the learned knowledge can only monitor the utterance when form other than meaning is focused and when sufficient time is available to learners to retreat information from their learned system. Therefore, formal grammar instruction, which aims at explicit knowledge about structural rules, seems unable to contribute to the advancement of implicit knowledge, which is the type of knowledge needed for natural communication. Following Krashen’s logic, what classroom instruction can do no more for learners’ development in L2 communicative competence than provide 1) comprehensive input, which may not be always available in authentic L2 environments, and 2) the explicit knowledge, which can only be used to monitor the form of output in communication. In a word, Krashen’s Monitor Theory (1982) proscribes formal instructional devices, such as grammar teaching and error correction, on the ground of the non-interface theory.

In spite of Krashen’s advocates, research findings have shown improved grammatical accuracy during communication and accelerated progress through developmental sequences result from formal instruction (Ellis, 2002). These findings, as commented on by Ellis, were not obtained simply because the instruction happened to supply comprehensible input for the development of implicit knowledge. The increased accuracy in the research findings suggested that learners actually learned what they had been taught, at least on some occasions. However, it is important to note that the study results that lend
support to formal instruction do not necessarily claim the necessity for grammar instruction in SLA. Rather, they suggest a facilitative role for formal instruction. Sharwood Smith’s *Pedagogical Grammar Hypothesis* (1980) pointed out that by drawing learners’ attention to specific structural features of the language, instruction can significantly increase the rate of acquisition under certain conditions.

*Instructional strategies which drew the attention of the learner to specifically structural regularities of the language, as distinct from the message content, will under certain conditions significantly increase the rate of acquisition over and above the rate expected from learners acquiring that language under natural circumstances where attention to form may be minimal and sporadic.*

(Sharwood Smith, 1985, p.275)

In support of Sharwood Smith’s point of view, Eliis (2002) remarked on the Pedagogical Grammar Hypothesis by suggesting that even if instruction does not enable learners to fully acquire what was taught at the time when instruction was being implemented, it is possible that the instruction has prepared the way for its subsequent acquisition.

Among the proponents of grammar instruction, some researchers view instruction more than a facilitative device but a must-have tool for learners’ best interest in some situations. One of the situations where instruction is considered necessary is when the learner’s L1 is more general than the L2. For example,
English adverbs (e.g., today) can be placed in the beginning and at the end of sentences. However, adverbs like *today* or *next Monday* are not allowed to be placed at the end of sentences in Chinese language. As a result of overgeneralization, English-speaking learners of Chinese often attempt to put these types of adverbs in the same manner as in the construction of English sentences. White (1991) argued that the positive language evidence that learners come across in communicative input cannot be held accountable for removing errors of this type exclusively, because the positive evidence does not show the definite impossibility of the usage. Therefore, negative evidence or corrective feedback about what is NOT acceptable in the L2 through formal instruction is absolutely efficient and necessary.

Regardless of the different theoretical perspectives on formal instruction, teaching grammar is still a common practice across language classrooms, and learners who have graduated from those classrooms can speak their L2s to varying degrees. This fact seems to make the effects of formal instruction already self-evident. Therefore, the question researchers need to ask is what exactly those effects are.

### 2.2.2 Research Findings on Formal Instruction

In language classrooms where formal instruction is implemented, the questions that teachers ponder the most might be whether teaching grammar result in better learning, and whether some pedagogical approaches work better
than others. Addressing these two questions, this section reviews studies relating to the effects of formal instruction on L2 learning and the effects of different types of formal instruction.

a. The Effects of Formal Instruction on Production Accuracy

Formal instruction primarily aims at grammatical accuracy. According to Krashen (1982), the knowledge that is generated from formal instruction is explicit knowledge, which is only made available to and useful for L2 learners when they are in monitored situations. Following this train of thought, a relationship between grammatical accuracy and a monitored production is theoretically observable. However, what is the relationship between accuracy and spontaneity?

![Diagram showing the relationship between formal instruction and grammatical accuracy](image)

**Figure 2.1**

Relationship between Formal Instruction and Grammatical Accuracy
Kadia (1988) conducted a case study on the effects of forty-minute formal instruction on the monitored and spontaneous performances of a Chinese graduate student. The grammatical rule under investigation was the placement of pronominal direct objects of ditransitive and phrasal verbs. The subject was given a pretest to verify if her interlanguage behavior was systematic across oral and written skills. The subject’s verbal explanations of the structural rules that she used to answer the questions in the pretest revealed a rich metalinguistic knowledge. However, her internalized metalinguistic knowledge manifested more in her written test performance than in her spontaneous production. Immediately after the pretest, the instruction was administered. In addition to formal drills, the instruction required the subjects to “modify some of her rules and to reorganize her internal categorization of phrasal verb” (p. 512) based on the mistakes in the pretest.

During the whole nine weeks after the forty-minute formal instruction was done, the researcher closely observed the subject’s natural use of the target structures in her oral language without the subject’s knowledge. No grammatical mistakes on the target structures were observed in the first three days after the instruction; however, from day four the subject’s performance was not different from what it had been prior to the instruction. The disappearance of the accuracy was interpreted by Kadia as the result of the absence of the subject’s efforts to monitor. The posttest was administered two months after formal instruction being
implemented, and its purpose was to determine the effects of the forty-minute formal instruction on the subject’s controlled performance.

The posttest consisted of written and spoken sections. The absolute score on the written test was higher than it was on the pretest. However, without considering the probability that the result may be due to chance, a further interpretation about the significance of the improvement cannot be made. The spoken posttest was conducted in the format of spontaneous, informal conversation with the researcher. In the spoken posttest, the subject could only poorly judge the grammaticality of items in the conversation. The poor performance in the oral test was interpreted as the result of the subject’s concentrating on the semantic and pragmatic value of the utterances rather than on the form. The result could also be interpreted from Krashen’s point of view (1982); that is, the subject did not have *enough time* to retreat her explicit knowledge when she was trying to keep up with her momentum. However, given the fact that there are L2 speakers who are capable of speaking fluently and accurately, the poor spoken accuracy of the subject in Kadia’s study could be simply ascribed as the subject’s lack of language proficiency as a whole, which prevented her from retreating explicit knowledge soon enough in spontaneous conversations.
Ostensibly, the conclusion of the study could be drawn as the formal instruction did not contribute to the subject’s spoken accuracy in her natural communication. However, a closer examination of the study shows that this conclusion is questionable. First, the nature of the formal instruction provided in the study is questionable. Techniques that can be adopted to implement formal instruction are many, as will be discussed in the latter part of this section. Furthermore, they can be combined to maximize their effects. The content of the formal instruction in Kadia’s study was simply the presentation of rules with a rather small amount of examples and practice. The duration of the instruction was forty minutes long in total. In this case, an expectation of a significant improvement made out of this particular instruction does not seem to be reasonable.

Given that the participant took English courses for academic purposes for only two years, she was still at the survival stage of getting meaning across and understanding the key ideas in communication at the time when the study was conducted. In light of the subject’s very limited overall English proficiency, a request made to the subject to focus on both form and meaning simultaneously in the oral posttest is not considered appropriate. Attending to both form and meaning at once can be a challenging task even for an advanced L2 learner, let alone of the subject in Kadia’s study. As suggested by Ellis (2002), one determining factor affecting whether formal instruction results in improved
grammatical accuracy is the *developmental stage* of learners. In Kadia’s study, one forty-minute grammar session on different grammar structures was concluded as having little to no effect on spontaneous production, though the instruction seemed to be beneficial for controlled performance. This conclusion would remain speculative without consideration of the fact that the target structures under investigation per se are complex and typically acquired late. It is not possible to eliminate the chance that the subject in Kadia’s study was not developmentally ready. Although the immediate effects were not observed, the formal instruction given to the subject may have had a delayed effect. Potentially, this delayed effect can accelerate the learning process and lead to higher proficiency levels when the target structures in the study are no longer substantially beyond the subject’s then current interlanguage. In other words, the subject’s inability to utilize the target structures in spontaneous production does not necessarily mean that the formal instruction failed. L2 learners are likely to store explicit representations of the target structures and apply it to aid their subsequent acquisition of the features for the use in unplanned, spontaneous communication. In summary, for formal instruction to be successful with respect to grammatical accuracy, target linguistic features need to be selected “in accordance with the internal processes that govern why some structures are acquired before others” (Ellis, 2002, p.627).
b. Formal Instruction and Sequence of Acquisition

The teachability hypothesis predicts that instruction can only promote language acquisition if the interlanguage is close to the point when the structure to be taught is acquired in the natural setting (so that sufficient processing prerequisites are developed)

(Pienemann, 1985, p.37)

The Teachability Hypothesis was advanced by Pienemann in an attempt to answer the following frequently asked question in SLA research: can formal instruction violate the natural order of acquisition. Although formal instruction may prove powerless to subvert the natural order of acquisition of developmental structures as described by Pienemann, Ellis (2002) pointed out that grammar instruction can be effective in aiding learners to progress along the natural order more rapidly. Motivated by Pienemann’s Teachability Hypothesis, Buczowska and Weist (1991) conducted a study to contrast the acquisition of temporal systems between L1 and tutored L2 learners. Their study emphasized the relevance of pedagogical intervention in the L2 learning process as opposed to so-called natural sequences. The process of acquiring temporal location for L1 English speakers is observed to start from absolute location (e.g., past, present, and future tenses) to a combination of absolute and relative location (e.g., before/after). In contrast, in natural or untutored L2 acquisition, the learning sequence is observed to begin from relative location to an absolute-relative combination.
The different learning sequences between L1 and L2 speakers motivated Buczowska and Weist to investigate whether the acquisition sequence of tutored L2 learners are the same as untutored L2 learners. That is, can pedagogical intervention change the natural order of SLA? 60 children who spoke English as their L1 and 60 biology college students who learned English as their L2 constituted the control and experimental groups respectively in the study. The instrument used to elicit data was the comprehension test, which was designed in a format of two-choice alternative sentence-picture matching. Buczowska and Weist reported that their results deviated from the prediction made by the Teachability Hypothesis. Their tutored L2 learners solved comprehension problems based on absolute tense contrast before adverbial and before/after contrasts, which is dissimilar with what untutored L2 learners typically do. While the study reported that formal instruction could alter the natural sequence and hence could not confirm the Teachability Hypothesis, Buczowska and Weist acknowledged that it could be the way that the formal instruction was given rather than when the instruction was provided (unfortunately, the “treatment” was not described in their study).

Although the study did not fully support the notion of the Teachability Hypothesis, the research findings appeared to sustain a weaker form of the Teachability Hypothesis. Buczowska and Weist agreed that “natural sequences place constraints on pedagogical practices” (p.550) based on the finding that the
tutored L2 subjects acquired the present perfect and simple past contrast relatively late, though it was introduced early. Regardless of the natural constraints, the study argued that the pedagogical practices have facilitated acquisition of absolute tense and might have had delayed effects on the acquisition of temporal aspect.

As the study of Buczowska and Weist (1991) suggests, even if developmental constraints on formal instruction are present, grammar instruction can help learners to achieve acquisition when acquisition is understood as comprehension, as opposed to production. In other words, as noted by Ellis (2002), if the goal of formal instruction is to develop explicit knowledge other than implicit knowledge, taking account of the learner's stage of development may not be necessary. In sum, the Teachability Hypothesis would account for the formal instruction that has implicit knowledge as the instructional objective. Research investigating the impact that grammar instruction has on the natural order of SLA is valuable for theory building. However, its practical use does not stand out for language teachers. As asked by Ellis (2002), “how can teachers ensure that grammar instruction is timed to match individual learners' stages of development” (p.636)?

c. The Durability of the Effect of Formal Instruction

Although immediate beneficial effects of formal instruction on language proficiency can be observed across studies (Doughty & Williams, 1998b; Fotos,
1993; Robinson, 1997), the question of whether the improved performance from instruction can endure consistently over time often remains unknown. Doughty and Varela’s (1998) study, which will be examined in the following section d “Focus on form,” found that the experimental group showed improvement in the accurate use of past time reference in the written labs in their immediate posttest. However, the gains of accuracy in the immediate posttest were not observed to be robust in the 2-month delayed oral posttest.

Even though the delayed effects were not as convincing, the fact that the control group did not make any progress on their own during these two-month interval indicated “the implementation of the focus-on-form instruction was more effective than leaving students to their own devices to develop target like ability in past time reference” (Doughty & Varela, 1998, p.135). Although the improved performance in written labs was not evident in the 2-month delayed posttest, the experimental group maintained their gains in past time reference over the two-month interval on the oral measure.

What explanation can be put forth for the mixed results concerning durability across SLA research? One of the plausible explanations advanced by Lightbown (1991) suggested that only short-term effects can be obtained when a focus on form is introduced in a way that deviates from the communicative needs and students’ active engagement. In other words, durability of effect of grammar teaching is implied if the instruction is done to fulfill a learner’s communicative
needs. While this account appears to be convincing in its own right, it does not explain away the students’ regression situation in Doughty and Varela’s (1998), study, in which the formal instruction was implemented conforming to their needs in communication.

Another factor that can generally offer insights into the durability of formal instruction is the nature of the linguistic feature under question. As Lightbown (1991) suggested, developmental linguistic features, such as “questions,” constitute stable language interlanguage. Once they are learned, they are more likely to endure than variational features, such as adverbs. Moreover, Ellis (2002) suggested that durability may relate to the relevance that a learner perceives between grammatical properties and their communicative importance. That is, the perceived communicative importance of particular linguistic features can motivate the learner to try to retain the gains over a period of time. This view seems to be able to partially account for Doughty and Varela’s study mixed results in the delayed posttest. In their oral communication, the importance of using the correct past tense forms was consistently stressed by the teacher through repetitions and corrective recasting. Whenever the errors occurred, corrective feedback was provided and then the subjects were asked to repair the mistakes before moving forward. Therefore, the significance of accurate forms was perceived, which triggered the subjects’ motivation to retain what had been learned. However, the need to write correctly was not made urgent to the
subjects in the study. That is, the written errors, though they needed to be fixed later on, did not immediately interfere the flow of communication in the written labs. The subjects probably were not as much motivated to heed to the correct forms.

The question of whether formal instruction can contribute to durable, persistent learning results is certainly worth further research. Before a conclusive result can be reached, to forsake or devalue the contribution of formal instruction due to any potential non-durability is neither necessary nor wise. If a learner does not actively try to retain what was once learned or taught, even the best pedagogical learning environment (consisting of best teachers, materials, techniques, and the maximum exposure to the L2) cannot help the knowledge stay with the learner. Retention takes diligence and consistent practice. This should be the responsibility of the learner, rather than a function of teaching approaches.

In the following sections d, e, and f, the discussions will concern the effects of different types of grammar instruction.

d. Focus on form

Focus-on-form instruction is a pedagogical intervention that directs learners’ attention to the linguistic feature when problems with comprehension or production are perceived (Long & Robinson, 1998). Different from a focus-on-form approach, which extracts linguistic features from content or from a
communicative activity, focus-on-form interventions have an overriding focus on meaning or communication and draw learners’ attention to a linguistic feature as necessitated by a communicative demand. The quintessence of focus-on-form instruction is that “meaning and use must already be evident to the learner at the time that attention is drawn to the linguistic apparatus needed to get the meaning across” (Doughty & Williams, 1998b, p.4). Focus-on-form instruction is typically carried out in two steps. First, pedagogical activities can be designed to require learners to be primarily engaged in communicative tasks while also incidentally focusing their attention on particular grammatical characteristics. Second, L2 teachers can choose to explicitly or implicitly provide corrective feedback on learners’ grammatical mistakes during the course of communication (Ellis, 2002). Explaining reasons for mistakes and how to construct the correct structures are examples of explicit corrective feedback. An example of implicit corrective feedback can be done through recasting sentences in the absence of explanations as in the following example.

Ms. Wu: Justin, where did you go last night?
Justin: m...I go shopping with my family.
Ms. Wu: oh...you WENT shopping. Which mall did you go?
Justin: We went to the Easton Town Center.

The aim of focus-on-form instruction is to add attention to linguistic properties to an essentially communicative task rather than to depart from an already communicative objective; therefore, focus-on-form is potentially effective.
(Doughty & Varela, 1998). Based on this notion, Doughty and Varela conducted research to determine “whether and how learners’ attention can be drawn to formal features without distracting them from their original communicative intent” (p. 114).

Thirty-four ESL middle school students from two different intact science classes participated in this study. A pretest, posttest, and delayed posttests were administered in the format of written and oral lab reports to observe the subjects’ performance on simple past time reference and conditional structures. In order to not interfere with regular learning in the science classes, every effort was made to make the focus-on-form tasks natural. Five questions in Science Lab Report along with an additional question “what did I think would happen before we did the experiment” in the individual interviews were used as the instrument to elicit the target structures from the participants.

The treatment was implemented during the three experiments in the science class between the pretest and the posttest. The experimental group (FonF) received the focus-on-form treatment in addition to the science content instruction, whereas the control group only received the content instruction as usual. The treatments were carried out with varying techniques. The teacher would provide corrective feedback in the form of a recast whenever past or conditional error occurred in speaking or writing. The corrective recasting consisted of the repetitions with rising intonation to draw attention and the
recasts to provide the contrastive L2 forms. However, there was not metalinguistic discussion because it was not considered task-natural. In the written lab reports, corrective feedback was given by circling all errors of past time reference in addition to other content problems and asking students to redo the lab report which took into account of all comments.

The result showed that FonF learners improved in both accuracy and total frequency of using past time reference, particularly in the oral reporting of the science labs. The suggestion that can be made from the result was that task-natural, incidental focus on form is beneficial to students. Moreover, with regard to the issues pertaining to the feasibility, the study pointed out some pedagogical implication as follow.

• Focus-on-form intervention should be brief and immediate.

• The participants believed that they could pay attention to meaning, communication, and form at the same time.

• Not every participant felt comfortable about being corrected more than one or two times within one exchange.

• Teachers should be aware of the participants’ desire for comments on their language.

• It was possible to incorporate a focus on form to the content curriculum.
The result of Doughty and Varela’ study is encouraging in that the FonF approach can help L2 learners’ spoken accuracy. More importantly, it can be implemented in classrooms, not just experimentally possible.

**e. Implicit and Explicit Instruction**

Formal instruction can take the form of an implicit treatment or an explicit treatment. According to Dekeyser (1995), formal instruction is explicit if explanation of grammatical rules comprises part of the instructional treatment (deduction) or if learners are directed to attend to particular forms and try to generate the rules themselves (induction). Conversely, an instructional treatment is considered implicit if neither rule illustration or directions to heed to particular forms are part of the instruction. This distinction has given rise to some debates about the effectiveness of these two kinds of instructional treatments on the learning process and/or results. As described in the previous sections, Krashen (1994) has argued that an *unconscious* process of abstraction is called *acquisition*, and a *conscious* process is called *learning*. The knowledge that is learned consciously, Krashen claims, is limited to rules that are easy. Learned knowledge can only account for a small part of learner L2 knowledge, and it serves only to monitor and/or edit production initiated by the unconscious acquired system.

While Krashen’s insights are valuable, his arguments cannot be justified without a clear understanding of what “consciousness” entails. Schmidt (1995)
has discussed the term *unconscious* by differentiating three senses of language learning: (1) learning without awareness, (2) learning without intention, and (3) learning without explicit metalinguistic knowledge of what has been learned. Learning without awareness at the level of *noticing* the form of input in NOT possible, though the unconscious learning in the other two senses is likely to happen. In his noticing hypothesis, Schmidt (1995) indicated that “what learners *notice* in input is what becomes intake for learning” (p.20). The act of noticing, which allocates learners' focal attention and rehearsal in short-term memory, is argued to be necessary, but not sufficient, condition for L2 learning to occur (Robinson, 1997). Schmidt’s view has shed light on the important role of consciousness at the level of noticing in the process of learning second language. However, limits of the effectiveness of explicit instructional techniques have also been observed, such as the degree of interaction between rule complexity and learning. Examples of limitation are summarized as follow.

- Conscious rule learning works only for categorical rules, which describe simple structures.
- Pedagogical presentation of complex rules can lead to large-scale overgeneralization.
- Explicit instruction without provision of sufficient examples is ineffective.

Robinson (1997) carried out an experimental study to investigate the effectiveness of implicit and explicit instructional treatments on L2 learning. This
study examined the extent to which the 60 adult Japanese ESL learners could learn the rule regulating the argument structure frames of English novel verbs after twenty-five-minute exposure to fifty-five grammatical examples of sentences containing the verbs. The participants were randomly assigned into the four training conditions in the study, and the four training conditions included the following:

(1) *implicit* training condition, in which the participants were engaged in a reading exercise and were to remember the position of words in sentences;

(2) *incidental* training condition, in which the participants’ attention was directed towards understanding the meaning of sentences;

(3) *enhanced* training condition, in which a focus on form technique was used to draw learner attention to the linguistic aspects in addition to the meaning of sentences (a box was drawn around words and verb stems in the manner like *John* *go*ed); and

(4) *instructed* training condition, which consisted of an explanation of the target grammatical rule; that is, the focus on form technique was metalinguistic, which, according to Krashen (1994) can only lead to explicit knowledge.
Immediately after the training, all the participants spent two to five minutes on a “transfer session.” In the transfer session, the participants needed to decide on the grammaticality of the thirty sentences presented to them were grammatical. The prediction of the learning results respectively under these four conditions was made based on the assumption that (1) allocation of attention is necessary for all learning, and that (2) “generalizable learning will result from noticing the structural correlates of rules and using the rules to guide grammaticality judgment in the transfer task” (Robinson, 1997, p. 228). These assumptions are in line with Schmidt’s view (1995). The participants in the enhanced and instructed training conditions were expected to be able to generalize what was learned in the training because these conditions were intended to facilitate relevant noticing. On the other hand, the same result was not expected in the implicit and incidental conditions because learning in these two conditions was assumed to be memory-based, item-specific, and non-generalizable. In addition, the participants in the implicit and incidental conditions did not have algorithms to rely on in the absence of memory for grammatical examples. After finishing the transfer session, the participants answered a debriefing questionnaire. The questions of interest were that whether the participants had noticed, looked for, and being able to articulate any rule during the training session.
In response to one of the primary questions concerning the overall accuracy, the results showed that the instructed group was clearly superior to other groups in the ability to generalize the knowledge developed during the training session. The developed ability was needed to judge the grammaticality of the new set of sentence. The implicit group incorrectly accepted about 80% of the new ungrammatical sentences in the transfer session, regardless of the fact that these ungrammatical sentences were more devious from the training set sentences than the new grammatical sentences. Robinson (1997) interpreted this result to mean that “implicit learners draw on veridical memory for previously experienced instances in making decisions about grammaticality but do not show sensitivity to- and therefore access to representations of- differences in the relative similarity of the new sentences” (p.239). Moreover, the study also indicated that instructed learning of rules resulted in fast decision-making about new sentences; that is automaticity. Automaticity is so developed “because the rules (presented to the subjects) are accurate, determinate, and practiced” (p.242).

Automaticity can be understood as naturalness, temporal fluency, and rapid retreat of explicit knowledge in one’s output, and it allows a speaker to use her/his explicit knowledge less unconsciously. This perspective that practice can close the lacuna between explicit knowledge and implicit knowledge seems to challenge Krashen’s (1982) non-interference hypothesis and therefore
encourages grammar-teaching practice. The non-interference hypothesis contributes to the view that different ways of learning can result in different types of knowledge at initial stage. However, it cannot eliminate the possibility that these two kinds of knowledge interact naturally through practice. In sum, Robinson’s research (1997) suggests that a sufficient amount of practice in applying explicit knowledge can help learners develop automaticity to use their L2s more fluently.

f. Consciousness-Raising as Opposed to Practice

In order to help learners understand a specific grammatical structure or property, teachers and textbook writers often feel the need to resort to various techniques to direct the learners’ attention to the aspect of the target language (Sharwood Smith, 1993). Probably the most straightforward way among these techniques is to provide examples and explicitly address the relevant structural properties. The “attention-drawing” activities like this are referred to as consciousness-raising (Sharwood Smith, 1980). Since consciousness-raising implies that the learner’s mental state is altered by the input (Sharwood Smith, 1993), Ellis (2002) distinguished it from practice. In consciousness-raising activities, learners are not required to demonstrate their understanding of the target structures through producing or using the target structures but instead through formulating some kind of cognitive representation of how the structures work (Ellis, 2002). That is, the learners are not engaged in repetitive practice, in
which learners are typically required to produce the target forms correctly in isolation or in context and constantly receive corrective feedback. In other words, whereas practice is intended to develop learners’ implicit knowledge of the grammar rules, consciousness raising is aimed only at explicit knowledge.

Motivated by the position that formal instruction can function as a pedagogical device to raise learner consciousness of specific grammatical properties, which then can be noticed by learners in subsequent meaning focused input (Ellis, 1990; Schmidt, 1990), Fotos (1993) conducted research to investigate the following two questions: 1) does the development of explicit knowledge about grammar structures result in significantly more instances of noticing the structures in communicative input, and 2) how is the amount of noticing produced by two experimental groups different?

160 Japanese University EFL learners were randomly assigned to three groups, consisting of two grammar treatment groups (the grammar task group and the grammar lesson group), and one control group (communicative task group). Beside the random assignment, a pretest was administered to the participants to assure statistical equivalence among the groups prior to the experimentation. The treatment had three levels. One was called grammar consciousness-raising task, in which the participants would be presented grammar problems and need to solve them interactively. This format of task was meant to provide opportunities for meaning-focused use of the target language in
addition to raise learners’ consciousness of the target grammatical properties through the development of explicit knowledge. Another level of treatment that was used to promote consciousness-raising was the formal, teacher-fronted grammar lessons. The third level of the treatment was to have the participants perform communicative tasks that matched in format, length, and task features in the grammar tasks but lacked grammatical content. One week after the treatment was completed, the three groups were given a listening and a dictation exercise as what typically happened in their English class. The texts of exercises contained the examples of the target structures. Following the story reading and dictation exercises, the full written texts of the stories were provided to the participants. Then the participants were asked to perform noticing exercises. The degree of noticing was operationally defined as the amount of the target forms that were successfully recognized and underlined by the participants when the forms were embedded in the texts. At no time during the noticing exercises did the experimenter comment on the presence of the target forms, which were the adverb placement, indirect object placement, and relative clause usage. Rather, the experimenter simply required the participants to underline special English words. The special English words were defined and explained to the participants as anything that they considered special or noteworthy.

The result of this exploratory study showed that the grammar consciousness-raising activities in both grammar treatment groups significantly
enhanced the amount of noticed target structures in the subsequent communicative input. Fotos reported that the knowledge gained in the consciousness-raising tasks was also observed in the follow-up test that was administered two weeks later. This implies that the act of noticing can help retention of the structures. Moreover, the study also suggested that grammar consciousness-raising task performance was comparable with formal instruction in promoting the act of noticing. The results of this study are encouraging to the proponents of formal instruction and lay the ground for the future research investigating questions such as whether noticing structures will result in the emergence of the structures in learners’ output and the extent to which the output can be accurate.

2.2.3 Role of Attention

In psychology and cognitive science, learning is not possible without attention (Posner, 1992; Logan 1988). Schmidt (1995) argued for this position indicating that unattended stimuli stay in immediate short-term memory for no longer than a few of seconds, and therefore attention is needed for long-term memory storage to occur. In other words, it is attention that brings stimuli into focal awareness, instead of allowing content to be merely perceived.

Extending from this concept rooted in cognitive psychology, VanPatten (1996) claims that in SLA attention to input is the key mechanism for input to become intake, which subsequently is available for further mental processing.
Intake is “a process which mediates between target language input and the learner’s internalized set of rules” (Gass, 1988, p.205). After intake occurs along the course of SLA, the following learning process is described as falling into two categories, declarative and procedural or explicit and implicit (Tomlin and Villa, 1994). Figure 2.2 illustrates this process.

![Figure 2.2 Process of Input](image)

Noticing input is the first stage of SLA. The act of attending to input is a result of the saliency of the linguistic features themselves and a learner’s then current L2 knowledge. Since the noticed input need to successfully interact with the learner’s existing knowledge before it becomes comprehensible input, not all
noticed input makes it to the stage of comprehensible input. As Figure 2.2.2 shows, Gass (1988) claims that “what is comprehended can either feed into the intake component or, alternatively, it may be not used by the learner for anything beyond communication” (p.205). She also suggested that when intake is not ready to be incorporated into the learner’s interlanguage system, it may be processed and put into “storage.” The storage refers to declarative knowledge in Figure 2.2.2, which takes explicit representation of L2 rules, and can contribute to output performance through monitoring.

However, there is not a consensus among SLA scholars with respect to the model illustrated above. Krashen (1994) associated attention with consciousness and has argued that the unconscious processes and innate mechanisms that guide L1 “acquisition” are still accessible to adult learners, and therefore conscious learning has minimal impacts on the ability to learn and use an L2 in communication. That is, deliberate learning does not lead to automatic use, which is assumed to be achieved with incidentally acquired implicit knowledge (Paradis, 1994). Simply speaking, Krashen argued that only if language input is in a purely communicative L2 learning environment can the process of language acquisition happen, because explicitly, consciously learned knowledge is completely separate and does not convert into acquired knowledge.
However, evidence from psychological experiments generally does not sustain the claim that distinction between incidental and intentional learning results in different knowledge types.

Moreover, Schmidt (1995) argued that Krashen’s work inadequately describes the critical notion of “unconscious.” He stated that the notion of “unconscious” can be used to denote three different things. First, learning can take place without intention. Such learning is possible in the sense that people can learn without intending to. Second, learning can occur without explicit metalinguistic knowledge because few people, if any, possess metalinguistic knowledge of all the grammar rules in their L2. The above two notions advocate a view that not all learning is deliberate or intentional. However, as the third notion states, learning cannot happen without noticing, which is at a continuum of awareness with “understanding” sitting at the other ends. According to Schmidt (1995), the process of noticing has to be a conscious one. In this last sense, learning does require consciousness because learners must pay attention to input and also have the momentary subjective experience of “noticing.” In short, Krashen is right to state that learning is unconscious when consciousness refers to intention or explicitness, which does not necessarily contradict the notion that learning needs attention.

Schmidt’s notion of attention stands as a simple challenge to the minimalist accounts of Krashen and Dulay & Burt about the role of attention and
awareness in SLA. A number of factors were identified by Schmidt (1990) to induce a learner to notice information in the input. For example, L2 linguistic features will be noticed in the input if (1) they occur repeatedly, (2) do not conform to expectation, (3) are salient as a result of their position in utterances or their phonological form, or (4) are needed for interactional modification during the negotiation of meaning. These factors help to explain that manipulatively simplified input with the features outlined above facilitate acquisition because it makes input comprehensible.

There are several pedagogical implications from this notion of attention. First, for learning to happen, attention is necessary. Second, for attention to be focused, input needs to be noticed. Third, for input to be noticed, salience and comprehensibility in linguistic features in the input cannot be absent. But how does one make input salient? Since unattended input does not contribute to learning, one needs to determine whether and how pedagogical intervention can redirect learners’ attention from meaning to aspects of form of input which otherwise may lack saliency for learners and so remain unattended to during communication (Doughty, 2001).

2.2.4 Summary

This section has reviewed studies that focus on the effects and types of formal instruction. The results of the studies can be summarized as follows. First, noticing the target forms in the input is important for the learning of the particular
linguistic properties to happen. Second, grammar instruction, including explicit, implicit, and focus-on-form instruction, can raise learners’ consciousness to attend to the target forms.

In the literature on the purposes and effects of formal instruction, it has been shown that grammar instruction primarily aims at making learners conscious of target linguistic features and typically arrives at explicit knowledge. Explicit knowledge refers to “knowledge that is available to learners as a conscious representation” (Ellis, 2002, pp.355). This type of knowledge, contrasting with implicit knowledge which is obtained through a subconscious process where language is used for communication, is described as the result of learners’ conscious attention paid to understand and memorize grammar rules (Krashen, 1982). However, explicit knowledge is not the same as “metalingual knowledge,” with which learners are able to articulate the special terminology for labeling linguistic concepts. Learners who are not capable of stating rules may still have access to the relevant information in explicit knowledge.

The role of consciousness-raising in explicit grammar instruction is defined as the purposeful attempt to draw the learners’ attention particularly to the formal properties of the target language. Such consciousness of the target grammatical forms is criticized for its non-naturalistic character because deliberate awareness
does not usually conform to so-called normal everyday spontaneous language behavior. This concern needs to be taken into consideration but cannot rule out the role of consciousness-raising in formal instruction.

Many research findings propose that when classroom-learning experience in either EFL or ESL is overwhelmingly meaning-focused and thoroughly experiential, some linguistic features or accuracy are less likely developed to the expected level. This is so, regardless of the number of years of meaningful input and opportunities for genuine communication (Harley, 1992 and Harley & Swain, 1984). In accordance with these notions, learners’ being made conscious of forms is the primary goal of the explicit grammar instruction in the present research.

The concept of consciousness-raising in the classroom, influenced by the impression of the grammar-translation method, is mistaken as completely the donnish inculcation and testing of the grammar structures and vocabulary of the target language. However, learners’ consciousness of the linguistic properties can be raised without indulging in the metalinguistic discussion at all times, and learners are not necessarily required to be able to verbalize the rules after the consciousness-raising activities. Consciousness can have degrees of explicitness (Rutherford & Sharwood Smith, 1988). That is, it can move from metalinguistic discussion to the exposure of repeated examples. Specifically, there is a continuum between explicitly calling attention and implicitly calling
attention to focus. What is called attention to may be decided through degrees of elaboration or conciseness. Explicitness is concerned with the question of the extent to which the discovery of the regularities is under the guidance by the teacher.

Armed with explicit information about the target structures, learners can consciously apply the rules not only in the classroom practice but also in the real communication at a high level of proficiency, though possibly without the speed and spontaneity associated with the notion of fluency. Fluency is considered an outcome of repeated practice and application of the target structures in formal and informal, naturalistic ways (Sharwood Smith, 1988). Explicit knowledge alone is not enough for learners to perform the language. Experience using the language is crucial. In the next section, literature with regard with performing language will be reviewed.

2.3 Creating Experiences as Part of Formal Instruction

In general, forms are associated with accuracy and learned with explicit explanations in class while meanings are associated with fluency and acquired implicitly through repeated experiences inside and outside of the classroom. For example, when instructors teach forms, they tend to impart linguistic structures discretely. For various reasons, they barely do form and function mapping systematically for learners. One reason may be related to the difficulties in the distribution of class hours or the administration of the curriculum. As a result,
learners probably cannot bridge the discrepancy between knowing well and doing properly, though they might have thousands of linguistic structures in their minds and be able to articulate the rules. As opposed to this situation, instructors who exclusively teach meaning-focused communication try to stay away from rules to leave learners with a glut of opportunities to be exposed to language samples. Nevertheless, in a learning setting like this, learners need to be linguistically selective and sensitive enough to pick up language evidence from language pool, inductively analyze the data, and hypothesize the embedded patterns over natural but pedagogically unscreened and raw data. During this long process where the thoughtful explanations are not provided, learners' hypotheses about the target language are very likely to go wrong. To patch up the shortcomings and make the best use of the advantages in these two different approaches, experiences in performing target forms communicatively is incorporated into the instruction and placed in an equal position with explicit grammar instruction.

2.3.1 Performance-Based Pedagogy

Valette (1994) proposed the Five-Step Performance-Based Model of oral proficiency. The model not only emphasizes the importance of learning how the language works linguistically but also highlights the weight of performance in the development of proficiency. Explanations of grammatical characteristics are followed by the opportunity to use the new words, phrases, and patterns they
have just learned to reinforce the comprehension. The goal of the performance activities primarily concerns “self-expression and conveying information fluently in a meaningful context” (p.15). Activities used in the performance step are to resemble real-life tasks, and Valette also recommended that “activities in language classes can be rendered much more effective if they are followed up by analysis and individualized suggestions for additional practice” (p.16). This suggestion can be interpreted to mean that performance and corrective feedback on linguistic aspects should go hand-in-hand to enhance the effects of instruction. The model weights each of the five essential steps equally. For Valette, one needs to possess both of the grammatical and communicative competences to be proficient in his/her L2. As Valette concluded, all the activities, including metalinguistic explanations, mechanical oral drills, and simulated performance, should be “viewed in the context of the context reaching Step 5, which is the ability to use the second language in authentic oral communication situations” (p.15).

2.3.2 Communicative Language Teaching

Communicative Language Teaching (CLT), one of the most commonly implemented teaching approaches in L2 classrooms, puts forth its primary goal for its learners as the development of abilities and skills to communicate with others and complete the tasks USING the L2 in the real world. This goal can be pedagogically realized through designing each of the class activities and tasks
with communicative intents (Larsen-Freeman, 1995) and authenticity. In addition, the activities are set up to engage each of learners to use their L2s as much as possible. Nunan (1999) supported this view and commented that while grammar lessons can work for some people, it is not as effective for others. However, opportunity to use the language can benefit all the learners. The underlying theory of CLT can be described by a quote of Aristotle, “the things we have to learn before we do them, we learn by doing them.” The philosophy “learning by doing” (Dewey, 1938) embedded in CLT has provided a valuable insight for grammar teaching professionals in that formal instruction should incorporate activities of language use so that their learners can put theories into practice.

2.4 Teaching Professional-Level Language Skills

Grammar instruction typically aims at learners at lower levels of proficiency. Accordingly, most of its associated research has a primary focus on this population. While the pedagogical implications of these studies can still contribute their valuable insights to classroom practices at professional levels, principles and practices in teaching professional-level language need to be taken into consideration when teaching the students at higher levels of proficiency. Learners at professional-levels, such as non-native language teachers, can expect to “use the language professionally while having obviously less than native control of linguistic and cultural elements” (Leaver & Shekhtman, 2002, p. 3). This group of learners is qualitatively different from learners who just start out
their L2 learning. Leaver and Shekhtman suggested two characteristics that can distinguish professional-level learners: *linguistic experience* and *communicative focus*.

**Linguistic Experience**

According to Leaver and Shekhtman (2002), linguistic experience assumes that no L2 learners achieve professional levels of proficiency without any prior *learning* experience and that the experience of this student shapes his/her expectations for the subsequent learning. Moreover, learners at a professional level usually have strong linguistic convictions and rich foreign language experience. As a result, professional-level learners’ evaluation of and attitude toward the instruction can be critical. This mindset, based on the extent to which the learners agree with the instruction, can significantly impair or enhance the effects of instruction. Leaver and Shekhtman explain how *linguistic experience* can affect professional-level learners in affective and cognitive aspects. Affectively, these learners are typically goal-oriented and regard everything outside their specific scope of academic interests as a distraction. Cognitively, while each of these learners may possess a wealth of schemata to the learning tasks, the nature of their schemata may be more different than they appear to be on the surface. Given these traits of professional-level learners, Leaver and Shekhtman suggested that the content of courses at these levels be specific and precise.
Communicative Focus

Another feature that characterizes professional-level learners is their communicative focus (CF). CF is defined by Leaver and Shekhtman (2002) as “the relative proportion of idea and language mechanics in the process of communication” (p.21). Native speakers, for example, can communicate without a conscious focus on linguistic properties; it is the ideas that concern native speaker. The native speakers then are said to have high CF. In contrast, learners who talk with unnatural pauses, search for words, deliberately think about grammar have low CF. For speakers who have low CF, how to say usually worries them more than what to say. However, this does not imply that learners with low CF are unconcerned with the content of ideas. It is simply that the cognitive resources required for intelligible communication are not yet accessible.

Learners at professional levels generally have high CF, but that is not to say they do not have to intentionally choose words or expressions. Leaver and Shekhtman (2002) pointed out that learners with high CF are allowed to selectively manipulate linguistic mechanics “under the full influence of the ideational and sociolinguistic-sociocultural plane” (p.21). Since learners at professional levels are expected to operate with high CF, Leaver and Shekhtman suggested that instruction prepared for learners who are at or begin to approach professional levels include “regular, irregular, archaic, and idiosyncratic possibilities of the linguistic system as it is used across a broad set of genres and
in a broad set of situations” (p.23). However, as Leaver and Shekhtman indicated, this content of instruction would demand learners’ attention to the “elimination of acquired inaccuracies in structure” (p.23). This remark sheds light on the issue of accuracy at professional levels of language proficiency in the sense that communicating with appropriate expressions at ease (high CF) requires one to have skills and knowledge to apply a variety of grammar rules freely and accurately.

**Sophistication and Accuracy of Structure at Professional Levels**

Leaver and Shekhtman (2002) clearly stated that grammatical accuracy is the most important element of high CF and that “poor control of grammar is the main reason why students cannot concentrate on ‘what’ to say and must deal with the ‘how’ of communication” (p.24). Learners at professional levels typically have a solid understanding of theoretical knowledge but at the same time still make grammatical mistakes, particularly when they are under psychological pressure. Leaver and Shekhtman attributed this discrepancy to the learners’ lack of *automatic control* of some grammar features. In light of the issues of automaticity, Leaver and Shekhtman put forth some pedagogical implications for classroom practices as follows: (1) identify the grammar features that have been learned but not acquired, (2) reacquire language features that have been acquired inaccurately, and (3) develop the essential sophisticated grammar structures that remain unfamiliar to students (p.25). Leaver and Shekhtman
summarize three types of grammatical mistake patterns in professional-levels students: (1) automatic and correct; (2) automatic but not correct; and (3) not automatic.

The first type, “automatic and correct,” means that learners can produce a correct pattern at the speed of a native speaker when their “declarative knowledge is turned into qualitatively different procedural knowledge” (DeKeyser, 1997, p.214) through a considerable amount of practice. The second type, “automatic but not correct,” characterizes learners who can offer an appropriate pattern instantly but with mistakes or errors. The ungrammaticality in their output can be the results from lack of knowledge or lack of focus on form (Leaver and Shekhtman, 2002). According to Robinson (1997), both knowledge and memory can affect the process of decision-making process about grammaticality, and students with a focus on form have shown to have a better understanding of grammaticality. The third type, “not automatic,” refers to learners who cannot use appropriate patterns, and the reasons are among all the possibilities (Leaver and Shekhtman, 2002).

Leaver and Shekhtman (2002) pointed out that students speak fluently and readily when they use only the first and the second types of grammar patterns. This perspective seems to suggest that one’s grammaticality is a determinant factor for his/her fluency. By reducing the number of Type 2 mistakes and making the Type 3 pattern more automatic via practice, the degree
of learners’ communicative effectiveness will correspondingly elevate. Leaver and Shekhtman also noted that professional-levels students trained in communicative approaches can be “awfully fluent- with ‘awful’ referring to lack of grammatical control” (p.26). On the other hand, learners trained with grammar-translation oriented teaching methods tend to sacrifice fluency for accuracy. However, for a professional-level learner, such as a teaching professional, neither of the scenarios is desired.

In sum, grammaticality and fluency go hand-in-hand in a professional-level learner’s language proficiency; therefore, improvement on accuracy is needed for the professional-level learner to pursue his or her “pleasing” fluency and overall performance.

2.5 English Teacher Education Programs in Taiwan

Learning English has been a “movement of the entire Taiwanese people (全民運動 quan min yun dong).” As citizens’ awareness of the importance of English proficiency increased, the Minister of Education (MOE) in Taiwan incorporated English as one of the subjects into the curriculum of primary school in addition to secondary school in 2001. To meet the demand of a big number of English teachers, MOE has launched different paths to prepare qualified English teachers. In general, Taiwanese English teachers serving at different divisions, including primary, junior, and high schools, are prepared through three paths: four-year college teacher education programs, two-year teacher graduate
programs, and two-year post-bachelor teacher certificate programs. Depending on the nature and policies of each program, the English Teacher Certificate may be awarded to the English teacher candidates upon graduation or through the annual National Teacher Certificate Examination. Only with the Teacher Certificate can teacher candidates go to their interested schools to interview for English teaching positions. The boom of English teacher preparation programs has subsequently received considerable attention from educators and specialists to evaluate the quality of the programs and the qualification of the certified teacher candidates (Shih, 2001).

2.5.1 Qualifications of Language Teachers

The competencies that a foreign language teacher should possess include (1) the proficiency of the target language, (2) understanding of the first and second/foreign language acquisition, (3) knowledge of the target culture, (4) knowledge of education policy and practice, (5) knowledge of pedagogy, (6) effective classroom management techniques, and (6) knowledge and techniques of foreign language assessment (Shih, 2001). Among these qualifications of a foreign language teacher, Brosh (1996) argued that the knowledge and command of the target language are the most fundamental, which is in accordance with the core concern of the present paper, English spoken accuracy. Cullen (1994) also supported this point of view and stated that all the language teacher preparation programs should prioritize how to improve teacher
candidates’ command of the target language over other elements. The reason for teacher candidates’ language proficiency being placed at the top of the list is that the prevailing teaching methods (i.e., communicative teaching approach) and the increasing amount of authentic materials have required teaching professionals to possess higher language proficiency than it was needed in the past. Moreover, the result of Cullen’s survey study also showed that a substantial number of non-native English teachers are aspired to improve their proficiency. Among aspects of language proficiency, Wu (2002) pointed out the particular significance of *oral accuracy* in Taiwanese English teachers’ language skills. Since spoken accuracy is recognized as an essential qualification to Taiwanese English teacher candidates, it is necessary to examine the courses relating to this area offered through the English teacher preparation programs in Taiwan.

2.5.2 Curriculum of English Teacher Education Programs in Taiwan

In general, the two core domains of the curriculum content across the English teacher education programs in Taiwan are *English proficiency* and *teaching skills*. This section will address the courses with regard to English proficiency.

The curriculum designed to develop teacher candidates’ language skills has a focus on their communicative skills (Shih, 2002) and consists of five components: (1) pronunciation, (2) pattern practice, (3) conversation, (4) listening practice, and (5) reading and writing. Among these five components, pattern
practice is the one that is related to spoken grammatical accuracy but was rated as least useful in Shih’s (2001) survey research for their personal language developments. According to Shih, the most important reasons were mechanical and boring activities and perception by teacher candidates that the function overlapped with the Conversation course.

From the researcher’s point of view, other possible explanation for its low rating could have been that the significance of spoken grammatical accuracy in a teaching professional's skills did not draw participants’ attention as much as it should have. First, the concept that grammatical accuracy is one of essential communicative competencies (Swain and Canale, 1980) is probably not communicated to English teacher candidates clearly enough. Second, the primary goal of language proficiency development course in English teacher education programs in Taiwan is typically to develop teacher candidates’ temporal fluency so that these perspective teachers can deliver the lectures without unnatural pauses. As a result of emphasizing on fluency throughout the programs, teacher candidates may overlook the potentially detrimental consequence of being “automatic but not correct” (Leaver and Shekhtman, p.24, 2002), which is they are modeling “grammatical inaccuracy” for their future students. In sum, while some English teacher education programs incorporate the development of spoken accuracy into the curriculum, courses designed for this purpose do not seem to serve the purpose as well as expected.
2.5.3 Summary

As Shih (2001) concluded, English teacher education programs can be a determining factor for the success of English teaching and learning in Taiwan. A good English teacher should undoubtedly possess English proficiency at a professional level. While the MOE and English teacher education programs in Taiwan have always acknowledged the importance of teachers' language skills and offered courses to add to teacher candidates' professional developments in this area, equal focus has not been given to English spoken accuracy in the curriculum. This quality, oral grammaticality, is suggested to be promoted across English teacher education programs in Taiwan so that teacher candidates can be better prepared and thus benefit their future students.

2.6 Chapter Summary

This chapter has reviewed studies on grammar instruction, including its theoretical grounds, teaching methods, and effects. In addition, the chapter also reviewed the current practice and addressed the importance of spoken accuracy for teaching professionals and the needs for Taiwanese English teacher education programs to communicate the crucial role of oral grammaticality in a teacher candidate’s overall language proficiency. The literature reviewed in this chapter has laid the theoretical framework for the present research. In the next chapter, research methods will be described.
CHAPTER 3

METHODS

The two Main research questions that the present study investigated were:

1. Does Explicit Experienced Grammar Instruction have a positive effect on spoken grammatical accuracy of English Teacher Candidate’s usage of the English conditional structures?

2. If a positive effect is shown, what is the effect size?

The secondary research question was:

3. Does Explicit Experienced Grammar Instruction impair spoken fluency of English teacher candidates in their use of English conditional structures?

Based on these three questions, the study was designed and conducted. This chapter describes the details of how the present research was completed. The five sections that encompass the methodological procedures are Research Design, Participants and Research Site, Outcome Measures, Treatment, and Data Analysis.
The hypotheses for the main questions were:

Ho: \( \mu_{\text{experimental, posttest accuracy}} - \mu_{\text{control, posttest accuracy}} \leq 0 \)

H1: \( \mu_{\text{experimental, posttest accuracy}} - \mu_{\text{control, posttest accuracy}} > 0 \)

The hypotheses for the secondary questions were:

Ho: \( \mu_{\text{experimental, posttest fluency}} - \mu_{\text{control, posttest fluency}} \geq 0 \)

H1: \( \mu_{\text{experimental, posttest fluency}} - \mu_{\text{control, posttest fluency}} < 0 \)

3.1 Research Design

The primary purpose of the present study was to investigate the effect of the Explicit Experienced Grammar Instruction (EEGI) on the conditional structures of spoken English accuracy of teacher candidates. The research sought to make inferences about causality between explicit instruction and English spoken accuracy. Moreover, the research was conducted in an attempt to raise awareness of the significance of grammaticality in language-teaching professionals’ content knowledge and skills. As a result of increased attention to spoken accuracy, English teacher education programs would, hopefully, consider including the development of accuracy as one of the objectives in their curriculum. Based on these research objectives, an experimental research design was used.

3.1.1 Pretest-Post Control Group Design

The present study used a pretest-posttest control group experimental design. Thirty-six participants were randomly assigned to experimental and
control groups and given a pretest on the dependent variables, performance in spoken grammatical accuracy and in spoken fluency. Both the pretest and randomization were designed to control for possible extraneous variables that could have posed a threat to internal validity, such as history and regression threats. For example, if there had been any maturation effect, it would have affected the groups equally and thus would not contaminate internal validity. The procedures of random assignment, in addition, could assure that any initial differences between the two groups were attributable only to chance and, therefore, would follow the laws of probability. Moreover, the data obtained from the pretest allowed the researcher to verify the differences between the groups, if any existed.

3.1.2 Internal Validity

Ary, Jacobs, and Razavieh (1996) identified ten threats to internal validity of research. They stated that these extraneous variables must be controlled; otherwise an effect of these confounding variables could be produced and mistaken for the effect of the experimental treatment. These ten threats to the internal validity of the present study and how they were controlled are described below.

1. History

History effect refers to specific events, other than the experimental treatment, occurring during between the pretest and posttest that produce
changes in the dependent variable. This threat was controlled in the present study through the randomization and comparison with the control group. That is, if there had been any event that might have affected the dependent variable, the effect would have equally affected the experimental and control groups. Therefore, this intervening variable should not be a concern.

2. Maturation

Maturation threats refer to changes in the dependent variable simply as a result of the passage of time. For example, the subjects grow older or more fatigued. The growth may produce effects that could be mistakenly attributed to the experimental treatment. The maturation threats were controlled in the study by the random assignment of the subject to the levels of the treatment in that if there had been any increased maturation, the experimental and control groups would both have been matured at the same rate. Moreover, the interval between the pretest and posttest was as short as one week, and the treatment was implemented for an hour per day so the variable “maturation” should not have threatened the results of the study.

3. Pretesting

Pretesting threats refer to subjects’ exposure to a pretest as an influence on the subjects’ performance on a second measurement. The pretest sensitization was controlled by the randomization procedure and control group
comparison. Since the two groups were statistically equal at the outset and both groups were pretested, the pretesting effect should have affected both groups equally if there had been any effect.

4. Measuring Instruments

A threat of measuring instruments to the internal validity concerns changes in calibration, test difficulty, or observers. In the present study, the measuring instruments were one interviewer, two oral interview scripts respectively for the pretest and posttest, and two raters. The inter- and intra-rater reliability and the validity and reliability of the oral interview scripts are described in details in section 3.3 Outcome Measures.

5. Statistical Regression

Statistical regression can be a threat to internal validity when the subjects are chosen on the basis of extreme scores. The present study controlled this extraneous variable by the random assignment, with which the two groups of subjects were considered statistically equal at the outset. Thus, if there had been any regression effect, the control and treatment groups would have been regressed at the same rate.

6. Differential selection of subjects

The threat “different selection of subject” concerns the statistical equality of the groups before the treatment is implemented. This potential confounding
variable was controlled in the present study by randomization. That is, if there had been any difference between the experimental and control groups, it would have been due to the chance. Thus, this factor was not of concern in this study.

7. Experimental Mortality

No subject dropped out from the study so the variable “experimental mortality” was not an issue in the present study.

8. Selection – Maturation Interaction

Such interaction typically happens in a quasi-experimental design where randomization is not available and, thus, preexisting intact groups were selected. In the present study, the procedure of random assignment allowed the researcher to unambiguously evaluate the effects of the independent variable under the assumption that any difference existing at the outset between the two groups was due to chance, and that the maturation rates were equal in the two groups during the treatment. That is, since both selection and maturation threats were controlled, there was no interaction threat.

9. Implementation

The threat of experimenter bias effect operates when, for example, the experimental group is unintentionally given an unexpected advantage over the control group or when the implementer has a personal bias in favor of one method or group over another. This confounding variable was controlled through the training of the instructor. However, since the researcher, who sought to
establish the causality between the independent and dependent variables, was the implementer, this threat was potentially present. During the study, this factor was monitored using videotaping to limit the effect should it have occurred.

10. Subjects’ Attitudes

The purposes and procedures of the research were explained to all the subjects before the study started. In addition, the subjects were told that in order to have valid research results, they should act in the same way that they usually acted. For example, if they only studied English one hour a day, they should continue to study one hour a day, no more or less, regardless of which groups they were in. However, subject attitude could still have remained as a potential threat to the validity. The control group could have felt that they did not receive any treatment and were not treated fairly. On the other hand, the experimental group could have felt that they were special and important. The feeling of unfairness could have resulted in changes in the subjects’ attitudes towards the study and how they should perform in the posttest. Therefore, subject attitude was a potential threat.

11. Location and 12. Statistical Conclusion Validity

In addition to the ten intervening variables described above, location and statistical conclusion validity can also be contaminating variables to internal validity. In the present study, the control group did not receive any treatment. They simply completed the pretest and posttest. During the time of the
experimental treatment, the subjects in the control group were allowed to be anywhere they wanted to be. As for the experimental group, they received the treatment in the classroom where they usually had their English classes (see Picture 3.1. and 3.2). In their English classes, moving the chairs to form a circle to make the group discussions and conversations easier was not uncommon. In the present study, the researcher also arranged the participants to sit in a circle to accommodate the procedures in the treatment- Step 2: the Initial Experience and Step 4: Culminating Experience. In a word, the physical setting in the classroom was not especially set up for the present study, except for the two camcorders used as one of the procedures in the treatment. Therefore, location was not considered as a threat to internal validity.

The last potentially extraneous variable, statistical conclusion, was also controlled, and the details are described in section 3.5. Data Analysis.
Picture 3.1 The Classroom Used for the Treatment
In conclusion, the eleven threats to internal validity of the present study were appropriately controlled so that any difference between the experimental and control groups that was observed on the dependent variable could be reasonably attributed to have been caused by the independent variable.
3.1.3 External Validity

The present research primarily sought to determine if explicit grammar instruction could promote accuracy in English teacher candidates’ spoken usage. To evaluate the effect of the instruction, internal validity needed to be established. While the present study was performed on a particular group of subjects, the researcher also attempted to have the findings of the study furnish information about a larger realm of population, situations, and processes than were actually studied. Given this purpose, the external validity of the present research was assessed so the results can, with appropriate cautions, be generalized to other English teacher candidates or other teaching contexts.

Population External Validity

In order to make valid inferences from the findings from a particular study to larger populations, the researcher needs to correctly distinguish between the experimentally accessible population and the target population (Kempthorne, 1961). The target population in the present research was the English teacher candidates in four-year college programs, but the experimentally accessible population was the English teacher candidates enrolled at the time of the study as sophomores in National Taipei University of Education. However, due to class and work schedule conflicts and other administrative reasons, randomly selecting the sample from the accessible population was not possible. Thus, making valid inferences either to the accessible or target populations using inferential
statistics, which could indicate the likelihood that what was true of the sample was also true of the populations with a reasonable degree of confidence, could not be done. The generalization of the findings in the present study could not be made statistically; nevertheless, the readers can make the inferences using their own judgments based on the comparisons among the characteristics of the populations provided to them.

Ecological External Validity

Ary, Jacobs, and Razavieh (1996) stated that “to have ecological validity, a design must provide assurance that the experimental effect is independent of the particular experimental environment” (p.326). In the present study, the aspects in the setting that would be considered “experimental” other than “common” practices in language classrooms were the implementation of the pretest and the subjects’ knowledge of participating in the research. As far as the physical settings involved in the experiment are concerned, the descriptions along with the pictures of the classrooms in section 3.1.2 Internal Validity: Location can help the readers judge to what extent the results can be generalized to other classroom settings.

The pretest administered to the subjects was to control the statistical equality from the outset. While the threat of pretesting to the internal validity was controlled by having a control group in the present study, this procedure may have inevitably imposed a threat to the external validity in that the effects of the
The independent variable may not be applied to unpretested ones. This is because the nature of pretesting (see section 3.3 Outcome Measure in this Chapter) may “increase or decrease the experimental subjects’ sensitivity or responsiveness to the experimental variable and thus make the results that are obtained for this pretested population unrepresentative of the effects of the experimental variable for the unpretested population” (Ary, Jacobs, and Razavieh, 1996, p.327).

The subjects’ knowledge that they were participating in the present study might have had some reactive effects on the dependent variable; therefore, subjects’ attitude can remain a threat to the external validity. As a result of this potential threat, the readers need to generalize the findings with extreme caution to those who are exposed to a non-experimental setting.

In summary, although the researcher tried to select a design that would serve the key purposes of the study and was strong both in internal and external validities, it was natural that in some situations controlling one type of validity led to the loss of other types of validity. Since the present study was conducted to seek causality between grammar instruction and spoken accuracy, the researcher intended to consider the internal validity as the sine qua non and, thus, was committed to controlling the threats to the internal validity.
3.2 Participants and Research Site

3.2.1 Sampling

The first step in sampling is to identify the target population to which researchers would like the results of their studies to be generalized (Ary, Jacobs, and Razavieh stated, 1996). To strengthen external validity of studies, probability sampling procedures are recommended to select participants from the target population. The target population of the present study was the English teacher candidates who were enrolled in English teacher education undergraduate programs in universities in Taiwan at the time of the research. However, due to the fact that a random selection of thirty-six teacher candidates from the target population and then gathering the sample to receive the treatments in groups was not feasible, a purposive sampling procedure was used instead. The purposive sampling procedure by definition means that “the sample elements judged to be typical, or representative, are chosen from the population” (Ary, Jacobs, and Razavieh stated, 1996, p. 180.) However, this procedure can be questioned for “the extent to which judgment can be relied on to arrive at a typical sample” (p.181). In light of the nature of the purposive sampling procedures, the readers of the present study should be aware of its limitations and make generalizations of the study results to their own teaching contexts with caution.
3.2.2 Power Analysis

The data collected in the present research was submitted to a significance test to assess the probability of the null hypothesis being true. The power analysis, therefore, was executed to anticipate the likelihood that the study would yield significant effect. The power analysis focused on the research's potential for rejecting the null hypothesis. The main hypotheses tested in the present study were as follows:

Ho: μ_{experimental, posttest accuracy} - μ_{control, posttest accuracy} \leq 0
H1: μ_{experimental, posttest accuracy} - μ_{control, posttest accuracy} > 0

The \( p \)-value generated in the ANCOVA, the inferential statistic used in the present research, would indicate the probability of observing data as or more extreme as the actual observation when the null hypothesis is true. In other words, a small \( p \)-value (e.g., \( p=.0001 \)) would allow researchers to reject the null hypothesis because an outcome has occurred that is unlikely if \( H_0 \) were true. In order to obtain a \( p \)-value that could lead the researcher to make a valid and reasonable conclusion about the present study, it is important to explain what could have affected the \( p \)-value.

The \( p \)-value is a function of the following factors: the observed effect, the sample size, and the criterion of the alpha level. The purpose of the power analysis in the present research was to find an appropriate balance among these three factors by taking account the resources available to the researcher.
Role of Sample Size and Effect Size in Power Analysis

The sample size is crucial to research because it concerns if a difference between two independent groups is reasonably discovered or overlooked (King & Minium, 2003). In general, when the sample size is, for example, as large as 14,000, a correlation of only .0278 can reach the level of high significance ($P = .001$). That is, a very small difference between two means can be detected with a large enough sample size; however, the difference may have no practical importance. Therefore, the sampling procedure should not only consider the actual size of the sample but also effect size. Effect size expresses the magnitude of the difference between, in the present study, the posttest mean scores from the control and experimental groups in terms of the number of standard deviations.

Statistical power analysis and sample size estimation can help a researcher determine how large a sample is needed to obtain accurate and reliable statistical judgments and how likely the statistical test can detect difference between two groups of a given sample size. King and Minium suggested that researchers decide on a desired level of power and then select sample size based on the expected minimum effect size. In the present study, the researcher wanted a probability of 0.8 of discovering an effect of 0.7 ($d = 0.7$). Therefore, according to the power curve put forth by Cohen (1988), the sample size of 36 participants ($n=36$) was appropriate and thus used.
Role of Alpha in Power Analysis

The significance test ANCOVA in the present study would yield a \( p \)-value, which would be evaluated against the criterion, alpha (\( \alpha \)) level. For example, if the \( \alpha \) level is set at .01, then a \( p \)-value of .01 or less is required to reject the null hypothesis (\( H_0 \)) and thus establish the statistical significance. In other words, the degree of the \( \alpha \) level would affect the researcher's decision to reject the null hypothesis.

The \( \alpha \) level is equal to the rate of Type I error, which occurs when the null hypothesis is mistakenly rejected. Therefore, to prevent the Type I error, the \( \alpha \) level is usually conservatively set. However, the \( \alpha \) level does not work in isolation. For a given sample size and effect size, the power (1-\( \beta \)) of the study decreases as the Type I error decreases. In the present study, the \( \alpha \) level was set as .05 so that the potentially useful teaching method would not be overlooked.

3.2.3 Research Site

The National Taipei University of Education (NTUE) was chosen among ten Taiwanese universities which offer English teacher education programs for the reasons that follow. First, NTUE has been devoted to preparing teachers across different subjects for one hundred and eleven years, and its language teacher education program with high-standard admission criteria, in particular, has made itself the leading program in the field. This fact allowed the researcher
to assume that the English teacher candidates at NTUE possessed advanced language skills required to participate in the present study and were motivated to improve their spoken accuracy. Secondly, NTUE is a research-friendly university in the sense that researchers are welcome to conduct research there using its variety of resources. In addition, many students at NTUE are willing to cooperate with the research procedures.

3.2.4 Participants

The thirty-six participants in the present study were sophomores in the program of Children English Education and enrolled in the class English Literature for Children at the time of the study. The experiment included all of the class members but was not conducted during their class hours for the following reasons. The class English Literature for Children met once per week. Since the experiment needed five sessions for the treatment, one session for the pretest, and another session for the posttest, the whole procedure could have taken up to at least seven class sessions, which would have resulted in two months in duration for the experiment. Such a long duration of the experiment would have possibly made the variable “history” a threat to the internal validity. In addition, it was not reasonable to ask the instructor and the class members to give up seven or eight class sessions, which was one-half of the semester, for the present study. In light of these concerns, the researcher decided not to use regular class hours but conducted the experiment after school.
The average age of the participants was nineteen years old, and they were thirty-four females and two males. Regarding this education background in English language, all of them were native speakers of Mandarin Chinese and had not received any kind of education in any English-speaking country. That is, the English education that all the participants had received was uniformly three years in middle school, three years in high school, and another one year in their freshman year in college. The English classes offered across secondary schools in Taiwan had its primary focus on grammar in written forms and typically consisted of approximately eleven hundred and forty class hours during the six years.

The classes the participants took during their first year in college were Basic Reading, Basic Writing, Freshman Listening, and Freshman Conversation. The main reasons for them to study in the English teacher education program included their interest in both the English language and teaching, the demands of job market, the security of teaching positions, the nature of the teaching job (i.e., summer and winter vacations and reasonable salaries), and the expectations from the families. Moreover, the reasons for them to participate in the present study included their curiosity about how research was conducted, their willingness to help, and the desire to improve their English proficiency.
The information above, which was collected through a questionnaire (Appendix C), allowed the researcher to assume the absence of unreasonable discrepancy among the English proficiency levels of the participants while recognizing the existence of natural individual difference (i.e., aptitude and motivation). In addition to the demographic information, the pretest and randomization helped the researcher control the extraneous variable “differential selection of participants.”

In conclusion, since that there was no extreme case, such as an American born Taiwanese who was a native speaker of English and an academically low-achieving outlier, among the participants and that randomization was used, the control and experimental groups were assumed to have normality in their distribution.

3.3 Outcome Measures

The oral interview was the measure of spoken accuracy on the dependent variable in the present research, and it had the following qualities: face-to-face, one-on-one, criterion-referenced, analytic-scoring, and post-rating.

The criterion-referenced scale for scoring was used for its primary advantage in that it allowed the researcher to “make inferences about how much language ability a test taker has, and not merely how well the test taker performs relative to other individuals, including native speakers” (Bachman & Palmer, 2002, p. 212). In addition, the posttest in the present study was one kind of
achievement test in that the posttest was administered to evaluate individuals’ specific language skills, spoken accuracy, in response to specific instruction. Based on these two main reasons, a criterion-referenced scale was applied.

A number of advantages of analytic scoring put forth by Hughes (1999) triggered the researcher to choose it to measure the outcome. First, analytic scoring could settle the problem of uneven improvement of subskills in subjects. Secondly, the raters would be compelled to take different aspects of performance into consideration which they might have otherwise ignored. Thirdly, since the raters (inter-and intra rater reliability is described in section 3.3.4 Establish the Reliability of the Instruments and Raters) were required to assign a number of scores for each individual based on specific descriptions of each level, the scoring would tend to be more reliable.

Live scoring by the interviewer in the study was not used for the following reasons raised by Hughes (1999). First, the scoring of oral proficiency is highly subjective in general; therefore, even with professional training, a single scorer is typically not as reliable as one would wish. Secondly, interviewers can risk the danger of not judging interviewees purely on their linguistic skills but also being influenced by such characteristics as their pleasantness. Thirdly, live scoring typically would distract the interviewer from focusing on the content of the
interview or the other way round. In light of these potential drawbacks of live scoring, all the interviews were videotaped and scored by two raters to improve reliability and validity.

3.3.1 The Content and Implementation of the Oral Interview

The formats and task-difficulty of the oral interviews for the pretest and posttest were equivalent, as will be seen in the following descriptions. However, the actual questions differed in the two measurements, and, thus, the subjects would not give different answers or responses in the posttests simply because of sensitization based on their experiences in the pretests.

The pretests were administered on the seventh, eighth, and ninth of June 2006, which was a weekend before the implementation of the actual treatment. The subjects signed up for the time and date that worked best according to their schedules. The posttests were given on the nineteenth, twentieth, and twenty-first of June 2006, which was a weekend after the last session of the actual treatment. Like the procedures in the pretest, the subjects signed up for the time and date that were at their convenience. In the following tables, the dates and events are described in details.
Event 1

1. The researcher introduced the nature of the study, including the procedures of the pretest and posttest, to the thirty-six subjects and distributed a handout (Appendix A) along with the consent form (Appendix B) and personal information questionnaire (Appendix C).

2. The participants signed up for the sessions of the pretest and posttest (Appendix D).

Date
Tuesday, June 1, 2006

Duration
30 minutes
### Event 2

#### Pretest

An oral interview was administered to each subject, and the processes were videotaped. Thirty-six interviews were formatted into 2 DVDs.

<table>
<thead>
<tr>
<th>Date</th>
<th>Wednesday, June 7, 2006/ Thursday, June 8, 2006/ Friday, June 9, 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration</td>
<td>Approximately 10 minutes for each interview (videotaped)</td>
</tr>
</tbody>
</table>

#### Procedures

1. The interviewer greeted the interviewee in English as the warm-up. The contents of the greetings were sequenced as follow:
   - **How are you doing today? Would you please say your name so we can record it?** Very nice to see you again and thank you very much for coming for the interview.
   - **Do you know the purpose of this interview?** (If the interviewee did not know the purpose, the response would be provided as follows.) The purpose of this interview is to give you a chance to talk about something interesting so you can show how much you have learned from the English education you have received.
   - **Teaching is never an easy task. Why and when did you decide to become an English teacher?**
   - **In today’s interview, we are going to have a casual conversation, which will allow me to observe how you speak English. Please do not feel that there are certain CORRECT answers that I am looking for and thus you should give. Please relax. Just talk naturally and be yourself. That is the goal of this activity today.**

2. The interviewer showed the picture of the story “The Oil Lamp Wizard” to the interviewee and briefly introduced the story using English.

3. After the interviewee understood the story, *The Oil Lamp Wizard*, the interviewee was asked to discuss the 3 questions on the handout (Appendix E) using English. The questions on the handout were written in Mandarin Chinese for two reasons.
   - It could prevent the interviewee from depending on the subject matter knowledge that would have been otherwise provided to him or her.
   - The present study was to investigate participants’ English spoken accuracy not their reading skills.
4. The interviewer facilitated the flow of the interview by eliciting the target structures, bringing the interviewee back to the topic when she or he seemed to go off the topic, and responding with some filling words such as “ah…really,” “excellent,” and “is it.”

5. The interviewer closed the interview by saying:
   - Your wishes sounded very interesting.
   - You really have a good imagination.
   - Thank you again for coming.
## Event 3

### Posttest

An oral interview was administered to each subject, and the processes were videotaped.

### Date

Monday, June 19, 2006/ Tuesday, June 20, 2006/ Wednesday, June 21, 2006

### Duration

Approximately 10 minutes for each interview (videotaped).

### Procedures

1. The interviewer greeted the interviewee in English as the warm-up. The contents of the greetings were sequenced as follow:
   - *How are you doing today?*
   - *How did you like the instruction that you received in the study?*
   - *If you were to teach the conditional structures, what would you do differently?*
   - *I appreciate your participation in my study. Today is the last day of the experiment. What we are going to do is to have some casual conversations, which would allow me to observe how you speak English. Please do not feel that there are certain CORRECT answers that I am looking for and, thus, you should give. Please relax. Just talk naturally and be yourself.*

2. The interviewer showed the handout (Appendix F) to the interviewee and briefly introduced the topic for the conversations using English.
   The handout was written in Mandarin for the two reasons as stated previously.

3. As in the pretest, the interviewer’s role in the interview was a facilitator to maintain the pleasantness and to assure the momentum of the conversation as well as the quantity of the ratable target structures.

4. The interviewer wound down the interview by saying:
   - *It seems that gender can really influence one’s decisions about what to do and, thus, impact one’s life. While it is true that gender can be in favor for us in some ways and put us in a disadvantageous position in some other ways, we do not need to limit ourselves. If there is something that you want to do which you have not done yet because of your gender, please at least try it.*
   - *Thank you so much for participating in this activity. Your contribution will enrich our knowledge about second language acquisition.*
Equally important to the administration of the pretest and posttest was how the data in the tests were rated. The “answers” that participants provided were “conversations,” which needed reliable raters and rubrics of high validity and reliability to analyze. In the next section, scoring is addressed.

3.3.2 Scoring Criteria and Procedures

The results of the explicit grammar instruction in the present study were reported as scores, and it was ultimately these scores that determined if the instruction had an effect on the subjects’ spoken accuracy. Therefore, a valid and reliable method of measurement used to arrive at these scores was crucial to the study. In general, the challenges for measuring oral skills include the representativeness of testing tasks and scoring procedures in particular (Hughes, 1999). The validity of the test tasks in the pretest and posttest in the present study and the reliability of the instruments are discussed in the next section. This section focuses on the contents of the scoring rubrics and the scoring operations.

Scoring Criteria

Hughes (1999) explicitly indicated that scoring is valid and reliable only if

- clearly recognizable and appropriate descriptions of criteria levels are written and scores are trained to use them;
- irrelevant features of performance are ignored; and
- there is more than one scorer for each performance. (p.110)
The rubrics for the outcome measurements in the present study were, thus, designed based on the nature of the instrument and the principles along with the grading scales for testing oral skills provided by Hughes (p. 111-2). A part of the rubrics is presented in this section as a sample, and the complete set along with the instruction given to the raters are described in the Appendix G.
### Pretest
#### The Oil Lamp Wizard

**Question 1: If you had three wishes, what would you like to do? Why?**

- Grammatical Accuracy in the CONDITIONAL structures

<table>
<thead>
<tr>
<th>Descriptions of criterial level</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grammar almost entirely inaccurate phrases</td>
<td>6</td>
</tr>
<tr>
<td>Constant errors showing control of very few major patterns and frequently preventing communication</td>
<td>12</td>
</tr>
<tr>
<td>Frequent errors showing some major patterns uncontrolled and causing occasional irritation and misunderstand</td>
<td>18</td>
</tr>
<tr>
<td>Occasional errors showing imperfect control of some patterns but no weakness that causes misunderstanding</td>
<td>24</td>
</tr>
<tr>
<td>Few errors, with no patterns of failure</td>
<td>30</td>
</tr>
<tr>
<td>No more than 2 mistakes</td>
<td>36</td>
</tr>
</tbody>
</table>

- Fluency

<table>
<thead>
<tr>
<th>Descriptions of criterial level</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speech is so halting and fragmentary that conversation is virtually impossible</td>
<td>2</td>
</tr>
<tr>
<td>Speech is very slow and uneven except for short or routine sentences</td>
<td>4</td>
</tr>
<tr>
<td>Speech is frequently hesitant and jerky; sentences may be left uncompleted</td>
<td>6</td>
</tr>
<tr>
<td>Speech is occasionally hesitant, with some unevenness caused by rephrasing and groping for words</td>
<td>8</td>
</tr>
<tr>
<td>Speech is effortless and smooth, but perceptibly non-native in speech and evenness</td>
<td>10</td>
</tr>
<tr>
<td>Speech on all professional and general topics as effortless and smooth as a native speaker’s</td>
<td>12</td>
</tr>
</tbody>
</table>

| Subtotal | ____/48 |
Scoring Procedures

The two trained raters reviewed the video clips individually and took notes, if necessary, with respect to the reasons for the given scores of each interviewee. After both raters finished rating, they compared their scores. When there was discrepancy within the pairs of scores, the two raters would discuss the language sample to reach the agreement on an appropriate rating. When agreement could not be reached, the third rater would assist to determine the rating. The whole rating process took three weeks.

3.3.3 Establishment of the Validity of the Instruments

Content validity concerns the degree to which the sample of items on a test is representative of some defined universe of content. The evidence of validity is not usually expressed in a numerical form but is gathered by careful and critical examination by expert judges (Ary, Jacobs, and Razavieh, 1996). Therefore, a panel of two experts, who were professors in Foreign and Second Language Education at The Ohio State University during the time of the study, was invited to examine and determine if the content measured by the pretest and posttest was representative of those that constituted the content domain in the treatment.

The panel was provided with a copy of the teaching materials used in the treatment, including the handouts, instruction, and PowerPoint slides, to review the content domain of the instruction and then given the pretest and posttest to
establish the validity of the instruments. Both of the experts agreed that the tests were representative samples of the total content universe. That is, both of the pretest and posttest were valid instruments to measure the participants’ oral accuracy in the use of English conditional structures.

While the nature of the questions in the tests was verified for content validity, other potentially contaminating variables to validity in the tests and rubrics also needed to be assessed. Ary, Jacobs, and Razavieh (1999) stated that the test is to be free from the influence of factors that are irrelevant to the purpose of the measurement. In the present study, the channel of the test tasks was visual in that the participants needed to read the prompts in the handouts. The presence of the factor of participants’ English reading skills, if it had not been controlled, could have lowered the validity of the pretest and posttest because the tests would then have measured English reading skills in addition to spoken accuracy. In light of this concern, the prompts in the tests were written in Mandarin Chinese, the native language of the participants.

Fluency was also one of the characteristics in the participants’ performance that was evaluated by the raters. However, since fluency was not included in the instructional objectives, it could be argued to be irrelevant in the present study and, thus, was not to be graded. This argument could be legitimate from the perspective of controlling the threat to the content validity of the instruments. Nevertheless, in order to avoid the situation where the participants
would intentionally speak with unnatural pauses to achieve the expected accuracy and, thus, their speech would not be ratable, the researcher decided to include fluency in the rubrics. Moreover, rating fluency allowed the present research to investigate the impact of grammar instruction on fluency. Since each individual participant in the control and treatment groups was rated on this particular criterion, if this criterion had produced changes in the observation on the dependent variable, it would have affected both groups equally.

3.3.4 Establishment of the Reliability of the Instruments and Raters

Test-Retest Reliability

Test-retest reliability coefficient was used as the procedure to estimate the reliability of the instruments used in the pretest and posttest. In the pilot test, the researcher administered the same tests to the same group of four individuals on two occasions and correlated the paired scores. That is, the pilot-test participants took the pretest and posttest twice on two occasions, and the results were used to establish the reliability of the instruments.

Four participants in the pilot test were all graduate students at The Ohio State University during the time of the study, including two doctoral and two master students. The participants in the pilot study were informed about the purposes of the study and the aspects of their speeches being evaluated. All of them received their bachelor degrees in Taiwan and spoke Mandarin Chinese as
their first language. The average age of the participants was twenty-seven, and the average length of time of their learning English in school settings was seven years.

The procedures of the test administration in the pilot test were the same with those in the actual pretest and posttest, which were described in section 3.3.1 The Content and Implementation of the Oral Interview, except for that each pilot-test participant took the pretest and posttest consecutively in one interview. Each interview took approximately fifteen minutes. Two weeks after their first oral interviews, the participants took the same tests again. The interval of two weeks between two administrations of the tests was determined based on the following reason. A test-retest coefficient assumes no practice effect or memory effect on the results (Ary, Jacobs, and Razavieh, 1996). If there is a memory effect or practice effect, the reliability estimate can be inflated. Therefore, the interval between the two tests had to be long enough for the researcher to control this threat. However, if the time between the two test administrations had been too long, differential learning could have been a problem. Due to the reason above, the interval of two weeks was chosen for the pilot test.

Even when the interval between tests was carefully planned, as Ary, Jacobs, and Razavieh argued, the memory or practice effect could still have been a threat. Therefore, a test-retest reliability is not usually appropriate for tests in the cognitive domain. In light of this limitation, the pilot-test participants
were not informed that they were to take the *same* test *again*. In addition, while the answers to the questions in the tests required the participants' cognitive knowledge in using the English conditional structures, the atmosphere of the interviews was intentionally created as casual and relaxing as possible so that the participants would focus more on the topical knowledge, instead of their grammar knowledge. With these actions, the effect of memory and practice, if any, could be considered having been mitigated in the pilot study and subsequently in the actual study.

The test-retest reliability coefficient was 0.97 (*r*=.97) for the pretest and 0.98 (*r*=.98) for the posttest. The high values of the coefficients were indicative of the consistency of the participants’ scores over time, and, thus, any change in scores from one time to another can be attributed to random error based on true score theory (Ary, Jacobs, and Razavieh, 1996).

**Equivalent-Forms Reliability**

In the present study, the pretest and posttest were different in the actual questions included in the instruments. It was done so to avoid the problem of recall or practice effect. However, changes in the measuring instruments, such as test difficulty, can produce changes in the obtained measures and thus cause a threat to the internal validity (Ary, Jacobs, and Razavieh, 1996). To control for
this confounding variable, the two instruments, pretest and posttest, needed to be equivalent in their difficulty level. The equivalent-forms technique of estimating reliability, therefore, was applied for this purpose.

The coefficient of equivalence was 0.97 \( (r=.97) \), and the coefficient of stability and equivalence was 0.92 \( (r=.92) \). The coefficient of stability and equivalence refers to “the variations in performance from one time to another as well as variations from one form of the test to another” (Ary, Jacobs, and Razavieh, 1996, p. 280). The high value of 0.97 indicated that the pretest and posttest measured the same participants’ performance and measured consistently over time. In other words, the pretest and posttest, which were constructed independently and had different questions and task contexts, met the same specifications in that they had the same number of items, form, time limits, instructions, and level of difficulty.

**Inter-and Intra-Rater Reliability**

The proper selection and training of raters is one of the most effective ways of handling inconsistency between raters and within raters themselves (Bachman & Palmer, 2002). In the selection of raters for the present study, the primary consideration was the required level of language ability. The English abilities of the two raters were at the level of complete mastery in the tasks being rated both in the pretest and posttest. Another criterion for the rater selection was their educational background. Both of the raters were native speakers of
English and had a master degree in education. They were high school English teachers in Gahanna, Ohio, during the time of the study. However, as Bachman and Palmer indicated, regardless of the language skills and backgrounds of the raters selected, it is essential to prepare them with adequate training. Thus, the selected raters went through their training with five steps in its procedure as follow (Bachman & Palmer, p.222).

1. Read and discuss the scales together.
2. Review language samples which have been previously rated by experienced raters and discuss the rating given.
3. Practice rating a different set of language samples. Then compare the rating with those of experienced raters. Discuss the ratings and how the criteria were applied.
4. Rate additional language samples and discuss.
5. Both raters rated the same set of samples. Check for the amount of time taken to rate and for consistency.

The training was to establish the reliability. However, even with careful training, inconsistency between and/or within the raters still might occur. Therefore, it is necessary to report the inter- and intra-rater reliabilities. One accepted procedure used to calculate inter-and intra rater reliability is known as the Cronbach’s alpha (Bailey, 1998). The inter-rater reliability was 0.98 ($\alpha = .979$), and the intra-rater reliability was 0.96 ($\alpha = 0.964$) for the first rater and 0.94 for the
second ($\alpha = 0.941$). While the values of the two coefficients were not as perfect as 1.00, a 0.97 and a 0.96 indicated high reliability. That is to say, the ratings were consistent enough for the researcher to have confidence in two raters’ ratings, according to accepted norms for reliability.

3.4 Treatment

The participants were randomly assigned into the control and experimental groups, and each group had eighteen participants. The experimental group received Experiened Explicit Grammar Instruction (EEGI) (Wu, 2004) implemented by the researcher. The control group was sent home and received no instruction.

3.4.1 Explicit Experienced Grammar Instruction (EEGI)

EEGI was designed in an attempt to help English teacher candidates with spoken grammatical accuracy. Four primary steps constitute the EEGI, and they take place sequentially as Figure 3.1 illustrates.
Figure 3.1 EEGI Steps

After Step 4, if continuous practice is recommended, Step 3 and Step 4 can be taken in a recursive fashion until the teacher candidates’ needs are met.

One of the features of EEGI is the metalinguistic discussion in the target language in Step 3. The content of grammar instruction, regardless of whether it is delivered in the base language or target language, is not considered input in the literature (VanPatten, 1996). VanPattern argued the content of grammar instruction typically to be contrived and manipulative and thus non-incidental and non-experiential. As a result of having these qualities, grammar instruction is not considered language input and, therefore, is not internalized for language learners to use when in communication.

However, the present study argues that when the metalinguistic discussion is done communicatively with the structure of the target rules being the topic of discussion, the utterances from the interlocutors are transformed into
input. This input provides language-specific information which interacts with whatever innate structure an individual brings to the language learning situation (Gass, 2003). Therefore, unlike traditional grammar teaching methods, the metalinguistic discussion in EEGI, in addition to reinforcing grammar knowledge, can provide learners with exposure to the target structures. Because linguistic discussions in Step 3 are to be conducted in the target language, advanced language proficiency of learners is required. As a result, EEGI is most appropriate for advanced learners, such as English teacher candidates. During the instruction, individuals can review particular grammatical properties and, thus, improve spoken accuracy.

Another feature of EEGI is that the procedure of videotaping at Step 2 and 4 allows learners to witness their mistakes, which at most times were made unconsciously and cannot be reviewed. The rationale for this procedure is that many grammatical mistakes are made without the awareness of the speakers (Schmidt, 1995). When the mistakes are not noticed by the speakers, a chance for the mistakes to be corrected is small. Step 2 and 4 provide learners with the opportunity to catch their own mistakes.

The third feature is that explicit grammar explanation, which contains both positive and negative evidence and takes place in Step 1 and 3, is immediately followed by the subsequent Initial and Culminating Experience. As Doughty (1998) pointed out, “what makes rule presentation and metalinguistic discussion
undesirable is not that they are explicit but rather that they separate form from meaning instead of integrating the focus on form within the focus on meaning” (p.148). The purpose of incorporating experiences in using the target forms into EEGI is to assure that grammatical rules are introduced in conjunction with communicative abilities.

Summary of the Four Steps in EEGI

In Step 1, the nature of the target linguistic structures is introduced through explicit explanations. With positive and negative language evidence, learners’ consciousness and attention to the forms are triggered and then work as a pedagogical device (Schmidt, 1995).

In Step 2, the instruction moves to different manipulated activities, where the target linguistic structures are subsequently reinforced by having learners use the target form. This is the stage where the declarative knowledge is transformed into procedural knowledge (Christensen & Noda, 2002). The rationale for creating experience for procedure knowledge to happen can be understood by an analogy of playing basketball. Declarative knowledge can be understood as knowing the rules of the basketball game, whereas procedural knowledge is the skills that allow the player to play the game (Christensen & Noda). In other words, the body of declarative knowledge can be built from a single experience, such as one session of grammar class. However, procedural knowledge is typically developed through repeated exposure or practice. In short, declarative
knowledge can be articulated, but procedural knowledge has to be demonstrated by practice (Christensen & Noda). Through in-class manipulated experience for the purpose of developing procedural knowledge, learners are guided to apply the target linguistic structures to accomplish assigned tasks or exposed to how the target linguistic structures are realized when others are performing the structures. All the performances are videotaped and analyzed subsequently.

In Step 3, the class watches the video together and discusses what part of output linguistically went wrong and how to correct it by offering correct forms and explanations. The target language is used. The role of the instructor at this stage is to facilitate the discussions, instead of participating in the discussions.

In Step 4, aiming at the same target linguistic structures, learners are given tasks requiring a bigger quantity of the target forms than the tasks given in the stage of Initial Experience.

3.4.2 Instructional Content: English Conditional Sentences

English conditional structures were chosen in the present study for their structural complexity for ESL (English as second language) and EFL (English as foreign language) students (Celce-Murcia & Larsen-Freeman, 1999) and frequency of occurrence in conversations. In a survey of the most challenging English grammar teaching task encountered by ESL teachers in Los Angeles area, Covitt (1976) concluded that conditional sentences ranked fifth. The reasons can be that, first, conditional structures consist of two clauses, a
subordinate clause and a main clause, and secondly, that the semantics of all kinds of conditional sentences are subtle. Additionally, according to Celce-Murcia & Larsen-Freeman (1999), a good grasp of the English tense-aspect system as well as the modal auxiliaries and negation is needed for ESL and EFL students to cope with the full range of conditional structures. The reasons above have made the conditional sentences challenging for teachers to teach and learners to learn. While the conditional sentences are difficult in general, they are in particular harder for speakers of Mandarin Chinese as the Chinese language does not have tenses, aspects, or verb inflections as English does. Based on these facts, the researcher decided to use the conditional sentences as the instructional content.

*The Grammar Book: An ESL/ EFL Teacher’s Course* (Celce-Murcia & Larsen-Freeman, 1999) categorized conditional sentences into ten types based on the different semantic relationships between the subordinating and main clauses (see Figure 3.2).
The imaginative conditional sentences are especially difficult for Chinese-speaking learners to use correctly. The reason can be ascribed to that these structures require Chinese-speaking learners to apply appropriate modals, aspects, and auxiliary verbs, which do not conform to Chinese linguistic features, to the structures. The decision about which forms to use is determined based on the degree of possibilities of event occurrence the speakers perceive as they speak. The judgment with respect to the form choice is not necessarily challenging; however, making a right decision during conversations where
momentum is expected can cause inaccuracy. Due to the reason above, the present study used hypothetical and counterfactual conditionals as the instructional content.

The grammatical patterns introduced to the participants were:

1. past counterfactual conditional (i.e., if my grandmother had still been alive in 2005, she would have attended my sister’s wedding);
2. present counterfactual/hypothetical conditional (i.e., if my father were here now, he would beat me up);
3. future hypothetical conditional (i.e., if she were to lose her job, she would probably be unable to pay the rent); and
4. mix conditional (i.e., if my parents were coming this weekend, I would not have had to cancel the dinner with my boyfriend).

3.4.3 Implementation of the Two Levels of the Treatment

The treatment had two levels, grammar instruction and no treatment at all. The control group simply completed the pretest and posttest without receiving any treatment between the two measurements. On the other hand, the experimental treatment included five sessions and was implemented in five consecutive days. Each session lasted for approximately sixty minutes, without a break during the session. The implementation of the treatment is described by the sessions in a chronological order with a table format in the following pages. The five sessions in the experimental group were videotaped and formatted in
four DVDs. The procedure of videotaping in the experimental group was done as part of the treatment and as evidence that the study was carried out as it was explained to the participants.

The Implementer

The researcher of the present study implemented the treatment in the experimental group. Before the research started, the researcher discussed the procedures of implementation in details with her academic advisor. The issues, such as implementer attitude toward the treatment and personal preference favoring grammar instruction, were addressed in the discussion. The advice given by the advisor in the discussion and the experience obtained through the pilot study helped the researcher be professional during the experiment.

Five Sessions of the Treatment

The descriptions of each session in the treatment are presented in a table format.
### Session One: Monday, June 12, 2006

#### Experimental group

Room 505

<table>
<thead>
<tr>
<th>Time</th>
<th>Material</th>
<th>Content of the instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00</td>
<td>Authentic language samples (Appendix H)</td>
<td><strong>EEGI Step One: Explicit Grammar Instruction</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. The participants were given five to ten minutes to read the handout, <em>authentic language samples</em>.</td>
</tr>
<tr>
<td>1:10</td>
<td></td>
<td>2. The researcher went over the samples to make sure that the participants understood the meanings of the passages and were able to identify the target conditional structures. The explanations were delivered in English.</td>
</tr>
<tr>
<td>1:15</td>
<td>PowerPoint presentation (Appendix I)</td>
<td>3. With the PowerPoint presentation, the researcher <em>explicitly</em> introduced the grammatical nature of the three conditional structures. The explanations of the structures included corresponding examples. The instruction was carried out in English.</td>
</tr>
<tr>
<td>2:00</td>
<td></td>
<td>4. Although the presentation was lecture-oriented, interaction between the participants and the researcher was observed when the participants had questions.</td>
</tr>
</tbody>
</table>
## Session Two: Tuesday, June 13, 2006

### Experimental group

Room 505

<table>
<thead>
<tr>
<th>Time</th>
<th>Material</th>
<th>Content of the instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00</td>
<td>PowerPoint presentation</td>
<td><strong>EEGI Step Two: Initial Experience</strong></td>
</tr>
<tr>
<td></td>
<td>(Appendix J)</td>
<td>1. Using the PowerPoint presentation, the researcher reviewed the target patterns for the participants.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. The participants practiced the past counterfactual conditionals with the exercise “Amanda had a bad day.” The participants first described what happened to Amanda and then discuss what could have happened if Amanda had done something different. The speeches were videotaped by two camcorders.</td>
</tr>
<tr>
<td>1:10</td>
<td></td>
<td>3. The participants practiced the present hypothetical conditional sentence with the exercise “If I were the Taipei Mayor.” The researcher called on people who did not speak as much in the previous exercise. The speeches were videotaped by two camcorders.</td>
</tr>
<tr>
<td>1:30</td>
<td></td>
<td>4. The participants practiced the future hypothetical conditionals with the exercise “if you were to go to Japan, who would you take with you.” The speeches were videotaped by two camcorders.</td>
</tr>
<tr>
<td>1:40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Session Three: Wednesday, June 14, 2006

#### Experimental group
Room 505

<table>
<thead>
<tr>
<th>Time</th>
<th>Material</th>
<th>Content of the instruction</th>
</tr>
</thead>
</table>
| 1:00 | PowerPoint presentation (Appendix K) | **Step Three: Peer Discussions**  
1. The researcher explained the procedures of "Step 3: peer discussions" to the participants.  
2. The PowerPoint slides consisting of information about the conditional structures were on the screen so the participants could resort to when offering corrective feedback to their peers.  
3. The participants watched the video and identified the grammatical mistakes in the conditional sentences.  
4. The participants discussed why the sentences were identified to be incorrect and provided the corrective feedback. The discussions were done in English.  
5. The researcher facilitated the discussions and provided the corrective feedback when the participants could not reach the answers. |
| 1:05 | DVD | |
| 2:00 | | |
## Session Four: Thursday, June 15, 2006

### Experimental group
Room 505

<table>
<thead>
<tr>
<th>Time</th>
<th>Material</th>
<th>Content of the instruction</th>
</tr>
</thead>
</table>
| 1:00  | PowerPoint presentation (Appendix L)  | **Step Four: Culminating Experience**  
1. The participants discussed the question “What other choices you could have had and where you would be now if you had not come to the teacher education program” in pair.  
2. The participants took turns to talk about what other choices their partners could have had and where their partners would be now if they had not come to the teacher education program. Their speeches were videotaped by two digital camcorders.  
3. The participants volunteered to talk about what they would do if they were to win the lottery jackpot. Their speeches were videotaped by two digital camcorders. |
| 1:10  |                                       |                                                                                                                                                                                                                           |
| 1:35  |                                       |                                                                                                                                                                                                                           |
| 2:00  |                                       |                                                                                                                                                                                                                           |
The details of how the research was conducted, including the sample selection, pretest, treatment, posttest, and instruments along with their validity and reliability have been described. The next section focuses on the statistical tools used to analyze the data to determine if the primary and secondary research hypotheses should be accepted.
3.5 Data Analysis

The present study was a true-experimental pretest-posttest control group design. The purpose of the study was to investigating the primary research hypothesis that the experimental group, which received the Explicit Experienced Grammar Instruction, would outperform the control group in the posttest. Based on the research design and the primary hypothesis along with the consideration of the assumptions for parametric tests, the ANCOVA procedure was used to analyze the data.

The usefulness of ANCOVA is to control for the initial difference in the pretest scores and depends on six assumptions as follow:

- the data are normally distributed, and means and standard deviations are appropriate measures of central tendency;
- independence of observations- scores on one measure do not influence scores on another measure;
- homogeneity is across from all the cells;
- a linear relationship exists between the dependent variable and the covariate;
- homogeneity of regression coefficient is observed; and
- the treatment has no effect on the covariate and thus they are independent from each other. (Mackey & Gass, 2005, p.271).
In addition, ANCOVA can be used when one needs to decide if the means of two groups are significantly different from one another. The t-test, moreover, allowed researchers not only to compare the means between two independent groups but also determine the difference within a group, which is known as a paired t-test. The ANCOVA procedure, therefore, was considered an appropriate inferential statistical tool for the present research.

The data gathered from the experiment, therefore, were analyzed using the ANCOVA procedure to investigate 1) the difference between the accuracy mean scores of the control and experimental groups on the posttest and 2) the difference between the posttest fluency mean scores of the control and experimental groups. The statistical hypotheses in the study included:

Ho: \( \mu_{\text{experimental, posttest accuracy}} - \mu_{\text{control, posttest accuracy}} < \) or \( = 0 \)
H1: \( \mu_{\text{experimental, posttest accuracy}} - \mu_{\text{control, posttest accuracy}} > 0 \)

and

Ho: \( \mu_{\text{experimental, posttest fluency}} - \mu_{\text{control, posttest fluency}} > \) or \( = 0 \)
H1: \( \mu_{\text{experimental, posttest fluency}} - \mu_{\text{control, posttest fluency}} < 0 \)

The level of significance was set as 5\% (\( \alpha = 0.05 \)). In other words, the probability value that was used as the criterion to decide that the obtained sample statistic, the estimate of standard error of the difference between two independent means and two dependent sample means, had a probability as low as 5\% of occurring
by chance if the null hypothesis is true. The 5% level of significance was selected based on common research practice in education (King & Minium, 2003).

3.6 Summary

This chapter has documented the procedures taken to complete the experiment so that replication of the present study for other research purposes in the future can be carried out. The teaching materials, PowerPoint slides, and handouts are included in the appendices. Equally important is how the results are interpreted based on the whole context of the present study, such as the characteristics of the participants, the nature of the treatment, and the research site. In the next chapter, the results of the study are reported, analyzed, and discussed.
CHAPTER 4

DATA AND DISCUSSIONS

4.1 Introduction

In this chapter, the procedures for data analyses are reported and discussed, including the pretest results, posttest results, and an analysis of covariance (ANCOVA). This study used a pretest and posttest control group design; it was conducted to investigate the two main research questions and one secondary question. The main questions included the following.

1. Does Explicit Experienced Grammar Instruction have a positive effect on spoken grammatical accuracy of English teacher candidate in English conditional structures?

2. If a positive effect is shown, what is the effect size?

The secondary question was

3. Does Explicit Experienced Grammar Instruction impair spoken fluency of English teacher candidate in their use of English conditional structures?
Based on the purposes of the study and the research questions, ANCOVA procedure was used to assess the statistical significance of mean differences between the two groups with an adjustment made for initial differences. The hypotheses of the main research questions were:

Ho: $\mu_{\text{experimental, posttest accuracy}} - \mu_{\text{control, posttest accuracy}} \leq 0$
H1: $\mu_{\text{experimental, posttest accuracy}} - \mu_{\text{control, posttest accuracy}} > 0$

The hypotheses of the secondary research question were:

Ho: $\mu_{\text{experimental, posttest fluency}} - \mu_{\text{control, posttest fluency}} \geq 0$
H1: $\mu_{\text{experimental, posttest fluency}} - \mu_{\text{control, posttest fluency}} < 0$

4.2 Variables of the Main Research Questions and Participants

**Independent Variable**

The independent variable in this study was teaching method with two levels: Explicit Experienced Grammar Instruction (EEGI) and no instruction. Thirty-six participants in the present study were randomly assigned to one of two groups: experimental or control. The experimental group received grammar instruction delivered by the researcher for five sessions; each session was approximately sixty minutes in length. During the five consecutive days when the experimental group participated in the treatment, the control group was sent home without any instruction or contact.
Dependent Variable

The dependent variable was the measure of spoken accuracy obtained from the posttest oral interview. Each interview included three questions, and each question included a focus on English past counterfactual, present counterfactual, and future hypothetical conditional structures. In the speech data collected from the individual participants in the posttest interviews, only the spoken accuracy on the three English conditional structures was rated as data to answer the main research questions. Other aspects of English, such as pronunciation and vocabulary, in the participants’ utterances were not analyzed. The posttest was worth a total of 108 points, with each question arbitrarily assigned a value of 36 points.

Covariate

The covariate in the research was a measure of the pretest scores obtained before the treatment began. The format, number of questions, and scoring criteria in the pretest were identical with those in the posttest.

Participants

Thirty-six participants were recruited for the present study. All of the participants were university sophomores and were enrolled in an English Literature for Children course in a Taiwanese university at the time of the research. The number of participants was determined so as to conform to the rules of The Ohio State University Institutional Review Board (IRB). This rule
requires that every individual in the selected class (English Literature for Children) has an equal opportunity to participate in the study and is treated equally. During the recruitment procedure, all class members expressed their willingness to participate in the study; therefore, the whole class, which had thirty-six students, was recruited and included in the research.

4.3 Analysis of Pretest Results

In the study, each treatment group included an equal number of participants, eighteen. Table 4.1 displays the numbers of participants in the control and experimental groups.

<table>
<thead>
<tr>
<th></th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Valid</td>
</tr>
<tr>
<td>Group</td>
<td>N</td>
</tr>
<tr>
<td>Pretest</td>
<td></td>
</tr>
<tr>
<td>Control Group</td>
<td>18</td>
</tr>
<tr>
<td>Experimental</td>
<td>18</td>
</tr>
</tbody>
</table>

Table 4.1 Pretest Case Processing Summary
Table 4.1 reports that a total of thirty-six participants successfully completed the pretest on the designated days and no one missed the pretest. The completion rate for this test was thus 100%. Next, two sets of mean scores of the pretest are reported.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Statistic</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest Accuracy Scores</td>
<td>Control Group Mean</td>
<td>49.67</td>
</tr>
<tr>
<td></td>
<td>Experimental Group Mean</td>
<td>44.56</td>
</tr>
</tbody>
</table>

Table 4.2 Descriptives of Pretest Accuracy Scores

Table 4.2 shows the descriptive statistics for the pretest scores of both the control and experimental groups. In the pretest, the control group had a mean test score of 49.67, while the experimental group had a mean of 45.56. As the data showed, a discrepancy of 5.11 points (49.67 - 45.56 = 5.11) existed between the two sets of pretest mean scores. It is important to examine the difference of 5.11 points for the reason that although the participants were randomly assigned to the groups, significant differences between the groups
could have existed before the application of the experimental treatment. In order to avoid the threat of differential selection of subjects to the internal validity of the study, a t-test procedure was used to assess if the means of the two groups were statistically different from each other. The following hypotheses were tested:

\[ H_0: \mu_{\text{experimental, posttest accuracy}} - \mu_{\text{control, posttest accuracy}} \leq 0 \]

\[ H_1: \mu_{\text{experimental, posttest accuracy}} - \mu_{\text{control, posttest accuracy}} > 0 \]

Before calculating the t-test for independent samples, the researcher first needed to examine if the assumptions of the t-test were met.

**4.3.1 Assumptions of t-test for Independent Samples**

The first assumption requires the independence of the groups. Since the participants were randomly assigned to the two study groups, the observations in the two groups were independent. The second assumption concerns the scale of the measurement. Since the scale of measurement for the total points of the pretest was a ratio scale, this assumption was met. Third, the t-test procedure assumes the normality of the distributions in the two groups. The Kolmogorov-Smirnov (KS) and Shapiro-Wilk (SW) tests of normality are presented in Table 4.3.
<table>
<thead>
<tr>
<th>Groups</th>
<th>Kolmogorov-Smirnov</th>
<th>Shapiro-Wilk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistic</td>
<td>df</td>
</tr>
<tr>
<td>Pretest Accuracy Scores</td>
<td>Control Group</td>
<td>-.19</td>
</tr>
<tr>
<td></td>
<td>Experimental Group</td>
<td>-.17</td>
</tr>
</tbody>
</table>

Table 4.3 Test of Normality

Both KS and SW tests showed that the $p$-value was larger than .05 ($p > 0.5$) in each cell (KS (18) = .19, $p = .10$; KS (18) = .17, $p = .20$; SW (18) = .93, $p = .22$; and SW (18) = .92, $p = .15$). Therefore, the normality of the data can be safely assumed. The shapes of the distributions in the two groups are presented in Appendix N (page 278).

Finally, the t-test assumes homogeneity in the two distributions. The F-test (Levene’s test for equality of variances) was used to measure if the variances of the control and experimental groups were approximately equal.
Levene's Test for Equality of Variances  

<table>
<thead>
<tr>
<th>Equal variances assumed</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Levene's Test for Equality of Variances</td>
</tr>
<tr>
<td></td>
<td>F</td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>.36</td>
</tr>
</tbody>
</table>

Table 4.4 t-test for Independent Samples

The F value reported in Table 4.4 is .36 (F=.36), and the significance level is higher (p=.55) than .05 (α=.05). The homogeneity of the two groups can thus be assumed. Appendix O (page 280) provides a graphic representation of homogeneity.

Since none of the four assumptions was violated, the researcher proceeded to calculate the t-test to investigate if the difference of 5.11 points, as shown in Table 4.4, between the two means was significant.

4.3.2 Interpretation of t-test Results

As Table 4.4 showed, the t-statistic was reported as 1.70, and the p-value was .10 (p = .10). The p-value is understood as the probability of observing a test statistic at least as extreme to be the value actually obtained, given the assumption that the null hypothesis is true. In the present study, the significant
level was set as .05 ($\alpha = .05$); therefore, the $p$-value of .10, which is greater than an a priori $\alpha$ value, was interpreted as a 10% probability that the difference of 5.11 points between the two means was caused by chance and, thus, not significant. In conclusion, although the pretest mean scores observed from the control and experimental groups were different, the two groups were considered statistically equal based on the above statistical analysis.

4.4 Analysis of Posttest Results

After the difference of 5.11 points between the sets of mean scores obtained in the pretest was concluded as not significant, the researcher proceeded to examine the data from the posttest. The number of participants in each study group and their completion rate of the posttest are reported in Table 4.5.

<table>
<thead>
<tr>
<th>Posttest Cases</th>
<th>Valid</th>
<th>Missing</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Control Group</td>
<td>18</td>
<td>100%</td>
<td>0</td>
</tr>
<tr>
<td>Experimental Group</td>
<td>18</td>
<td>100%</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 4.5 Posttest Case Processing Summary
Table 4.5 shows that all thirty-six participants in both groups successfully completed the posttest, and the data obtained from the posttest were valid to analyze. The next step was to compare the two sets of mean scores from the experimental and control groups.

<table>
<thead>
<tr>
<th>Posttest Accuracy</th>
<th>Condition</th>
<th>Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control Group</td>
<td>Mean 47.78</td>
</tr>
<tr>
<td></td>
<td>Experimental Group</td>
<td>Mean 75.33</td>
</tr>
</tbody>
</table>

**Table 4.6 Descriptives of Posttest Accuracy Scores**

Table 4.6 displays the descriptive data of the posttest accuracy scores in both groups. In the posttest oral interviews, the mean scores for the control and experimental groups were 47.78 and 75.33, respectively. The difference between the two mean scores was 27.55. The distributions of the posttest scores in the two groups are represented graphically in Appendix P (page 282).

Reviewing this set of data, the researcher observed that the control group had a lower mean score on the posttest than on the pretest. The control group had a mean score of 49.67 in the pretest and 47.78 in the posttest, and the
difference was 1.89 points. The control group did not receive any instruction and thus was expected not to perform differently in the two measurements. Therefore, a t-test was used to compare the two mean scores within the control group.

**Paired t-Test for the Control Group**

A paired t-test measures whether means from within-participants test score show a discrepancy over the two test conditions. The paired t-test was used here to investigate if there was a significant difference ($\alpha=.05$) within-control-group variation, and the hypotheses were:

- $H_0: \mu_{\text{control, pretest accuracy}} - \mu_{\text{control, posttest accuracy}} \leq 0$
- $H_1: \mu_{\text{control, pretest accuracy}} - \mu_{\text{control, posttest accuracy}} > 0$

Table 4.7 shows the mean scores of the control group in the two study measurements.

<table>
<thead>
<tr>
<th>Control Group</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest Accuracy</td>
<td>49.67</td>
<td>18</td>
<td>8.92</td>
<td>2.10</td>
</tr>
<tr>
<td>Posttest Accuracy</td>
<td>47.78</td>
<td>18</td>
<td>11.98</td>
<td>2.82</td>
</tr>
</tbody>
</table>

Table 4.7 Paired Sample Test
The data in Table 4.7 shows that all eighteen participants in the control group completed both pretest and posttest and had a mean score of 49.67 on the former, and 47.78 on the latter. A discrepancy of 1.89 was observed; therefore, a t-test was calculated to measure if this discrepancy was significant. The sample result of the paired t-test is displayed in Table 4.8.

<table>
<thead>
<tr>
<th>Control Group</th>
<th>Paired Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>df</td>
</tr>
<tr>
<td>Pretest Accuracy</td>
<td>17</td>
</tr>
</tbody>
</table>

Table 4.8 Paired Sample Test

Table 4.8 reported the calculated t-statistic to be .77 ($t_{17}=.77$) and the $p$-value to be .45 ($p=.45$). The $p$-value, as explained in section 4.3.2 Interpretation of t-test Results, represents the probability of observing a sample mean as deviant or more deviant than the obtained value of a sample mean when the null hypothesis ($H_0: \mu_{\text{control pretest accuracy}} = \mu_{\text{control posttest accuracy}}$) is true. In other
words, the $p$-value describes the rarity of the observed sample outcome when $Ho$ is true. With a $p$-value of .45 and an a priori level of significance ($\alpha = .05$), the conclusion is made that the sample result is considered insufficiently rare to call for rejecting $Ho$. Therefore, the two mean scores of the control group obtained from the pretest and posttest were not considered significantly different.

4.5 Analysis of Covariance

Analysis of the pretest and posttest results was described in the previous sections. The analysis of the independent t-test showed that the control and experimental groups were statistically equal at the outset. Moreover, the analysis of the dependent t-test revealed that the posttest mean score of the control group did not vary significantly from its pretest mean score. The next step was to investigate if the EEGI caused any improvement in the participants’ spoken accuracy in the experimental group. The hypotheses tested here were:

$Ho: \mu_{\text{experimental, posttest accuracy}} - \mu_{\text{control, posttest accuracy}} \leq 0$

$H1: \mu_{\text{experimental, posttest accuracy}} - \mu_{\text{control, posttest accuracy}} > 0$

Based on the nature of the pretest-posttest control group experimental design, the study necessitated ANCOVA as the procedure to analyze the data. The reason was that ANCOVA allows the researcher to use the pretest scores as the covariate so the effect, if any, due to the initial difference in the pretest score can be separated from the experimental effect. That is, the ANCOVA procedure can
control the source of variation due to the pretest scores by removing the effect of the covariate from the posttest scores using the regression method. Then, the F-test was performed on the adjusted posttest scores; it yielded a more precise and less biased estimate of the treatment effects.

4.5.1 Test the Assumption of Equal Slopes

Conducting an ANCOVA to test the assumption of equal slopes was an important first step. The ANCOVA assumes non-interaction between the covariate and treatments and a linear relationship between the dependent and covariate variables. Table 4.9 shows the posttest mean scores from the two groups and the number of participants.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Group (18)</td>
<td>47.78</td>
<td>11.98</td>
<td>18</td>
</tr>
<tr>
<td>Experimental Group (18)</td>
<td>75.33</td>
<td>15.84</td>
<td>18</td>
</tr>
<tr>
<td>Both Study Groups (36)</td>
<td>61.56</td>
<td>19.67</td>
<td>36</td>
</tr>
</tbody>
</table>

Table 4.9 Descriptive Statistics of the Posttest Accuracy Scores
The data in Table 4.9 explained that there was no missing case in the posttest, and the mean score of the posttest for the control group was 47.78 and 75.33 for the experimental group. The difference between the two sets of posttest mean scores was 27.55.

**Examination of the Interaction**

Table 4.10 shows how the researcher examined the effect of the interaction between the treatment (Group: Control and Experimental) and the covariate analysis (Pretest Accuracy Scores). Based on the F-statistics (F=.01) and the $p$-value ($p=.94$), the interaction can be safely described not as significant.

<table>
<thead>
<tr>
<th>Source</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group * Pretest Accuracy Scores</td>
<td>.01</td>
<td>.94</td>
</tr>
</tbody>
</table>

The symbol * means to interact
Dependent Variable: Posttest Accuracy Score

**Table 4.10 Tests of Between-Subjects Effects**
Examination of the Linear Relationship

A linear relationship is typically shown as a straight line when two comparable variables are plotted. In other words, the present study considered the relationship between the dependent variable (posttest accuracy scores) and the covariate (pretest accuracy scores) as linear if the effect on the dependent variable was a change in one unit in the covariate analysis. To present the linearity in the data, a scatterplot of posttest accuracy and pretest scores for the two groups is shown below in Figure 4.1.
Figure 4.1
Linear Relationship between the Covariate and Dependent variable
As Figure 4.1 shows, the covariate is linearly related to the dependent variable within both levels of the treatment. The assumption of equal slopes was met, and, thus, a one-way ANCOVA was conducted.

4.5.2 One-Way ANCOVA

The difference in the participants’ scores is attributable not only to the differences between the two levels of the treatment but also to the initial difference in the pretest scores. Although the participants were randomly assigned to the treatments, the probability of being a “bad sample” is not completely eliminated. In order to control this source of variability from the covariate variable, the statistical analysis of covariance was used to adjust the posttest scores based on the pretest scores. The SPSS data in Table 4.11 shows the two adjusted means as 45.90 for the control group and 77.21 for the experimental group. The discrepancy between the two sets of mean scores is 31.11 points.
Table 4.11 Descriptive Statistics of the Adjusted Pretest and Posttest Scores

The symbols \( (a) \) in Table 4.11 indicated that the covariate appearing in the model was evaluated at the value of 47.11, which was the mean of the pretest scores of all thirty-six participants (control group mean 49.67 + experimental group mean 44.56/ 2 = 47.11). Based on the adjusted means, the researcher tested the difference between these two obtained means, 45.90 and 77.21. Table 4.12 displays the SPSS data for the ANCOVA results.
The symbol * in Table 4.12 represented the interaction between the independent variable (group) and the dependent variable (Posttest accuracy scores), which was the main effect. The significance level of .000 for this effect, which was smaller than the a priori $\alpha$ value ($\alpha=.05$), indicated that the effect was significant. In other words, there was a significant difference in the overall posttest scores between the control and experimental groups. Beside the $p$-value, the $F$ ratio (51.43) in Table 4.12 also confirmed a significant difference in the posttest accuracy scores between the two study groups. $F$ ratio is a ratio of within- and between- groups variance estimates. When no treatment effect exists, the ratio should approximate 1.0" (King and Minium, 2003). The estimated $F$ ratio $F (1,36)$ is 4.11, and the calculated $F$ ratio was 51.43. Therefore, based on the results of the ANCOVA ($F = 51.43, p < .05$), the discrepancy of 31.11 points was a

<table>
<thead>
<tr>
<th>Source</th>
<th>F</th>
<th>Sig.</th>
<th>Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group* Posttest Accuracy Scores</td>
<td>51.43</td>
<td>.000</td>
<td>.60</td>
</tr>
</tbody>
</table>

Table 4.12 Tests of Between-Subjects Effects
significant difference between the two adjusted means. In addition, the Eta Square of .60 suggested a strong relationship between the posttest scores and the treatment, controlling for the pretest scores (Cohen, 1988).

**Effect Size**

Effect size, reported as Eta Square, is one index that measures the magnitude of a treatment effect. Unlike the significance tests used in the present study, such as the t-tests and ANCOVA, Eta Square is independent of sample size. In the present study where the ANCOVA procedure was conducted, Eta Square ($\eta^2$) was the measure of the degree of association between the effect of the treatment (EEGI teaching method) and the dependent variable (posttest scores). Eta Square, the estimate of the degree of association for the sample, can be thought of as the correlation between the independent variable and the dependent variable. When the value of the measure of association is squared, the squared value can be interpreted as the proportion of variance in the dependent variable that can be attributed to the treatment effect. The Eta Square reported in the present study ($\eta^2 = .60$) meant that 60% of the variance in the dependent variable could be explained by the independent variable. Because 60% of the variance was explained; thus, the researcher concluded that the effect size of the treatment was relatively strong (Cohen, 1988).

As for the other 40% of the variance that was not explained by the independent variable in this study, the possible variables that may be attributed
to the variance are individual participant factors, such as motivation, language aptitude, learning style, and measurement errors. More details are provided in section 5.2.2 Size of the Effect. Additional research is needed to explore other possible explanations for L2 learners' achievement in addition to classroom instruction.

4.6 Secondary Research Question: Analysis of Fluency Scores

This study also investigated if the treatment (EEGI) impaired the participants' English fluency in the oral interviews as the secondary research question. In order to reasonably attribute the effects of EEGI to the participants' fluency, one important procedure was to separate the effect due to the initial difference in the pretest fluency scores from the experimental effect. A regression method was used first to remove the effect of the covariate (posttest fluency scores), and then an F test was performed on the adjusted posttest fluency scores. The hypotheses tested here were:

Ho: μ_{experimental, posttest fluency} - μ_{control, posttest fluency} \geq 0
H1: μ_{experimental, posttest fluency} - μ_{control, posttest fluency} < 0
Test the Assumption of Equal Slopes

The ANCOVA assumes a linear relationship between the covariate and the dependent variable and noninteraction between the pretest fluency scores and the treatment. Therefore, the assumption of equal slopes was tested before the ANCOVA was calculated.

<table>
<thead>
<tr>
<th>Control or Experimental</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Group</td>
<td>18</td>
<td>21.44</td>
<td>3.05</td>
</tr>
<tr>
<td>Experimental Group</td>
<td>18</td>
<td>20.78</td>
<td>3.83</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>21.11</td>
<td>3.43</td>
</tr>
</tbody>
</table>

Table 4.13 Descriptive Statistics of Posttest Fluency Scores

Table 4.13 describes the mean scores assigned for fluency in the posttest and the number of the participants who completed the posttest from the control and experimental groups. All thirty-six participants successfully completed the posttest, with eighteen individuals in each treatment group. The control group had a mean of 21.44; the experimental group had a mean of 20.78. The difference between the two sets of mean scores was 0.66, which was not viewed as a statistically significant difference in the study.
Table 4.14 shows the interaction between the treatment (Group) and the covariate (Pretest Fluency Scores). Based on the F-statistics (F=.01) and the p-value (p=.98), the conclusion is safely made that the interaction was not significant. The linear relationship is presented graphically in Appendix Q (page 284). Since the pretest fluency scores were linearly related to the posttest fluency scores, the researcher was able to calculate the ANCOVA.

**One-Way ANCOVA**

In order to consider the initial differences in the two groups and control for this source of variability from the covariate, the ANCOVA was used to adjust the posttest fluency scores based on the pretest fluency scores. The adjusted mean scores for both treatment groups are shown in Table 4.15.
The symbol (a) means that the numbers shown in Table 4.15 were adjusted, not raw numbers. The adjustment was made based on the two sets of fluency scores in the pretest, which were treated as covariates in the ANCOVA. The two adjusted means were reported in Table 4.15 as 20.87 for the control group and 21.35 for the experimental group. The next step was to test the differences between these two adjusted means.

<table>
<thead>
<tr>
<th>Source</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difference between two group means</td>
<td>.19</td>
<td>.67</td>
<td>.01</td>
</tr>
</tbody>
</table>

Table 4.16 Tests of Between-Subjects Effects
The results of the ANCOVA in Table 4.16 indicate that no significant difference existed between the two adjusted means, $F = .19, p > .05$ (see section 4.5 Analysis of Covariance for the meanings of $F$ ratio and $p$-value). Moreover, the Partial Eta Square of .01 suggested a weak relationship (Cohen, 1981) between the posttest fluency scores and the treatment, controlling for the pretest fluency scores. In a word, the null hypothesis that there is no difference between the posttest fluency scores of the control and experimental groups was safely confirmed.

4.7 Chapter Summary

The main research hypotheses in the present study were as follows.

$H_0$: $\mu_{\text{experimental, posttest accuracy}} - \mu_{\text{control, posttest accuracy}} \leq 0$

$H_1$: $\mu_{\text{experimental, posttest accuracy}} - \mu_{\text{control, posttest accuracy}} > 0$

ANCOVA and t-test were used to test the above hypotheses. The analysis of results, as presented and discussed in the previous sections, shows that the experiment group outperformed the control group significantly in the measurements on the dependent variable. That is, the null hypothesis ($H_0$) is not confirmed, and the alternative hypothesis ($H_1$) is confirmed. In other words, the EEGI teaching method used as the treatment successfully improved the English oral grammatical accuracy in the tested aspects for the eighteen participants in the experimental group.

The data in the present study supported the main research hypothesis in that the experimental group that received formal grammar instruction
outperformed the control group that did not receive any targeted grammar instruction. In other words, the grammar instruction, Experienced Explicit Grammar Instruction, seemed to exhibit positive effects on the participants’ English oral proficiency. EEGI enhanced the advanced college level participants’ spoken accuracy in English conditional structures.

The secondary research question concerned the impact that EEGI had on the participants’ fluency. There was not a significant difference between two treatment groups’ fluency in the posttest oral interviews. That is, EEGI did not impair the participants’ fluency on the grammar structures being studied.

This chapter has presented both data and discussion. In Chapter 5, the researcher presents the study findings, the reasons for the research outcomes, pedagogical implications, and recommendations for further research.
CHAPTER 5

FINDINGS, IMPLICATIONS, AND RECOMMENDATIONS FOR FURTHER RESEARCH

5.1 Introduction

Grammatical competence is important as an aspect of second language proficiency. Incorrect application of grammar rules can cause misunderstandings in communication. For L2 learners to reach advanced or professional oral proficiency levels, a high degree of accuracy needs to be established (Leaver & Shekhtman, 2002). L2 learners, teachers, researchers, and administrators often recognize the significance of grammatical competence. However, the methods to improve grammatical accuracy have been inconclusive over the decades. A single instruction approach is not appropriate for all. In determining what type of grammar instruction should be used, L2 classroom teachers juggle a number of important elements in their teaching contexts, such as how much accuracy to require, the proficiency levels of their students, and available instruction
resources. Regardless of the nature of instruction, grammatical accuracy needs to be promoted and emphasized as a component of language proficiency.

The present study was motivated by the researcher’s teaching disposition that grammatical accuracy in oral skills is critical for all L2 learners, especially for L2 teachers who are also life-long L2 learners. The primary research question under investigation was whether Explicit Experienced Grammar Instruction (EEGI) could improve the spoken grammatical accuracy of EFL teacher candidates in Taiwan. The research used a pretest and posttest control group design with thirty-six participants randomly assigned to two levels of treatment. The ANCOVA procedure was employed to assess the statistical significance of mean differences between the two groups, controlling for any initial differences. The overall results revealed that the experimental group outperformed the control group on selected English conditional structures after five sixty-minute sessions of grammar instruction, and, thus, confirmed the research hypothesis (H1).

Ho: \( \mu_{\text{experimental, posttest accuracy}} - \mu_{\text{control, posttest accuracy}} \leq 0 \)
H1: \( \mu_{\text{experimental, posttest accuracy}} - \mu_{\text{control, posttest accuracy}} > 0 \)

With support from the statistical results, the next task for the researcher was to analyze and explain the research findings. How and why did the treatment assist the research participants with their English spoken accuracy in the posttest assessment? Possible interpretations of the research findings are explored
based on SLA theories and typical L2 classroom practices. Implications and limitations of the study are also presented. Towards the end of the chapter, recommendations for EEGI implementation and future research studies are provided.

5.2 Summary of Findings

In the Canale and Swain framework of communicative competence (1980), the researchers argued that grammatical competence is a fundamental concern for any language education that is geared toward the attainment of higher degrees of language proficiency, which requires accuracy and precision of understanding and expression (Omaggio-Hadley, 2001). Following this framework, the present study was designed to determine if explicit grammar instruction might assist language English learners achieve the goal—accuracy of expression.

The main research questions of the study were:

1. Does Explicit Experienced Grammar Instruction (EEGI) have a positive effect on spoken grammatical accuracy of English Teacher Candidate in the English conditional structures?

2. If a positive effect is shown, what is the effect size?

The secondary research question was:

3. Does Explicit Experienced Grammar Instruction impair spoken fluency of English teacher candidates in their use of English conditional structures?
5.2.1 Reasons for the Improvement

The treatment EEGI in the present study was intended to help the experimental group members to improve their spoken grammatical accuracy through explicit grammar instruction, experiences of using the target patterns, and the identification of the mistakes in the participants’ oral utterances. This treatment successfully increased the accuracy in the experimental group as shown in the posttest scores. Krashen’s Monitor Theory (1982), Doughty’s (1998) perspectives on Focus on Form, and Swain (1995) provided a base for the reasons for the observed improvement. These SLA-related theories all support the nature of a need for direct instruction of forms of language as part of the SLA process as explained in the following sections.

Krashen’s Monitor Theory

The monitor hypothesis describes a relationship between subconscious language acquisition and conscious language learning and describes an influence of learning on language acquisition. According to Krashen, second language learners’ explicit knowledge of grammatical rules can serve as a “monitor” of their utterances. The function of the monitor system in language learners includes planning, editing, and self-correcting when the following three specific conditions are available to the learners. First, the learners are clear about the grammatical rules that are required to produce the output. Second, the learners are focused on the correctness of the language forms. Third, sufficient
time to think about the rules is available to the learners. When these three conditions are met, according to Krashen’s theory, the monitor system starts to correct deviations in the grammatical usage and gives the output a more “refined” appearance.

In the present study, the linguistic rules of the English Conditionals were explained to the participants in the experimental group (Step One). Their understanding of these rules was reinforced by and verified in the follow-up application (Steps Two and Four) and peer-correction activities (Step Three). The participants, therefore, can be reasonably assumed to have met the first condition required for their monitor systems to start functioning.

As for the second condition, since the purpose of the present study was explained to the participants at the outset, they were aware that their spoken grammaticality was being evaluated. However, they were not told specifically what aspects were being evaluated. Thus, the participants may or may not have been conscious about the spoken accuracy in their use of English conditional structures but focused on the correctness of the language forms in general. Regardless of which aspect of grammar the participants paid attention to, the participants were conscious about their spoken accuracy. Therefore, the second principle of Krashen’s monitor theory was met in the present study.

During the posttest, the quality of their speech with a focus on accuracy was rated. The duration of the time they spent to complete their posttests was
not restricted. Hence, the statement that sufficient time was available to the participants to complete the tasks can be fairly made, which satisfies Krashen’s third principle.

In contrast, the control group did not receive any formal grammar instruction. The participants’ explicit knowledge, which they had learned previously at some point in time, was not clarified, explained, or reinforced. Therefore, even though the control group was given the same conditions, an understanding of the purposes of the study and the same amount of time to take the posttest, they did not perform as well as the experimental group on the posttest.

In conclusion, based on Krashen’s Monitor Theory, explicit grammar instruction in English conditional sentences can explain the reasons why the experimental group outperformed the control group in the present study.

Focus on Form

Focus on Form is one of the options of language teaching. According to Long and Robinson (1998), Focus on Form refers to how attention is emphasized on the linguistic forms of languages when learners are engaged in communicative activities. The thrust of Focus on Form is that teachers direct students’ attention to the specific linguistic features when problems are perceived in production. In some studies (Long 1983; Swain 1985; Doughty and Varela,
1998; Doughty and Williams 1998), adding a focus on form in a primarily communicative task has been shown to improve learners’ grammatical accuracy.

In one of the steps in the treatment, the participants watched a video of how they communicated while using the English conditional structures. The instructor and the participants reviewed each utterance of each participant on the video tape and discussed the grammaticality of the speech. This activity was designed to focus attention of the participants on the forms, which typically do not receive as much attention as meaning in real-time speech. This activity was repeated twice during the treatment and, therefore, the participants had probably learned how to focus their attention on the target forms when engaged in communication. As a result of adding attention to language form when carrying out the meaning-oriented tasks in the posttest, the experimental group improved their oral accuracy in the use of English conditionals.

Output Hypothesis

Swain (1985) theorized grammatical accuracy in language learning as that communication is not only about messages being conveyed but also about precise and appropriate language use. In studying speaking and writing skills of immersion students in Canada, where comprehensive input was available to the students, Swain discovered that the degree of their grammatical accuracy was lower than that of native performers. This finding caused Swain to question Krashen’s Input Hypothesis and then motivated her to develop what she called
the Output Hypothesis. Swain (1995) hypothesized that producing the target language not only improves fluency through the practice, but also enhances accuracy in different ways. For instance, output can help learners “notice a gap between what they want to say and what they can say, leading them to recognize what they do not know, or know only partially” (p.125-126). Moreover, producing the target language can provide learners an opportunity to try out their hypotheses about the grammar and possibly modify their hypotheses based on feedback or error correction. In a word, to achieve a higher level of accuracy, Krashen’s Input Hypothesis was not sufficient for Swain’s theory. Comprehensible output, where learners are engaged in expressing meaning in contextualized, communicative tasks (Omaggio-Hadley, 2001), is suggested as another causal variable for grammar development in second language acquisition.

In the present study, the experimental group was engaged in several communicative, meaning-focused tasks to practice and be tested on English conditional structures. When expressing themselves with the target rules, the participants seemed to notice the gap between “theory” and “application.” The subsequent feedback on the linguistic features in their speech afforded the participants with the chance to review their hypotheses of English conditional structures. Through output activities and discussions about English conditional grammatical forms, the experimental group was encouraged to consciously
reflect about their use of the English conditional structures. Practicing and then modifying their understanding of the target English forms allowed the experimental group to “control and internalize it” (Swain, 1995, p.132). Therefore, they exceeded the control group in the posttest results.

5.2.2 Size of the Effect

The second research question in this study was the size of the effect that the treatment had on the research participants’ English spoken accuracy. As the data showed in Chapter 4, the experimental group had a mean score of 44.56 on the pretest and 75.33 on the posttest. The degree of accuracy increased by 37% after grammar instruction. In addition, the data showed that 60% of the variance on the posttest scores was explained by EEGI. In other words, the improvement observed in the experimental group was associated with formal instruction. While 60% of the improvement appeared to be the result of EEGI, the remaining 40% could not be explained by the treatment. That is, there were some unknown variables that must also have contributed to the improved spoken accuracy on the posttest. In the following paragraphs, the researcher discusses some possible explanatory variables that may have provided an explanation for the remaining variance.

SLA research explains L2 learners achievements in part by reference to psychological factors, such as learning style, cognition, and language aptitude and in part possibly by social factors such as attitude, gender, social class, and
learning environment. Both types of factors are considered as individual differences. In the present study, the heterogeneity regarding psychological and social variables among the research participants were not investigated, but they might have played some role in their learning during the study, such as accelerating or impeding their learning. These variables might also account for part of the unexplained 40% variance. Additional research with a multiple-regression analysis is needed to help SLA researchers to understand the weight of each variable in L2 learners’ achievement. Additional references to this topic are included in the recommendations for further research.

Part of the variance that was not explained could also have been due to error of measurement. The measurement instruments in this study were one interviewer, two oral interview scripts, and two raters. As reported in Chapter three, test-retest reliability was 0.97 (r=.97) for the pretest oral interview script and 0.98 (r=.98) for the posttest. The coefficient of equivalence for the two tests was 0.97 (r=.97); the coefficient of stability and equivalence was .92 (r= .92). Regarding the raters, the inter-rater reliability was 0.98 (α =.979); the intra-rater reliability was 0.96 (α =0.964) for the first rater and 0.94 for the second (α =0.941). High reliability was an indicator of high consistency in the measurement instruments used in the study. However, measurement error was inevitable in the study and may have affected the pretest and posttest scores.
5.2.3 Generalization of the Findings

The target population in the present study was English teacher candidates enrolled in English teacher education undergraduate programs in universities in Taiwan at the time of the research. The thirty-six participants in the present study were selected from the accessible population for the reasons illustrated in section 3.2 Participants and Research Site. Since the selection of the participants was not done randomly, the results of the present study cannot be applied to the target population using inferential statistics. However, with comparisons among the learner variables, users of the present study can make an informed decision when reviewing their own research or application to their instructional setting.

A number of individual learner variables have been identified by researchers as influence on learning outcomes. Three general factors that have received attention in SLA research and are applicable in the present study are examined in the following section to provide the reader with an understanding of participants in the present study.

Age

In a review of studies that have discussed the influence of age on second language acquisition, Krashen, Long, and Scarcella (1979) concluded that, with regard to the rate and initial achievement in grammar acquisition, adolescents are superior to adults, with children last to acquire grammar competency. However, the difference in the attainment in grammatical accuracy should
diminish over time as children start to mature in cognition. One possible explanation for the advantage that adolescents and adults enjoy at the initial stage of learning syntax and morphology is that older learners experience more negotiation and clarification of meanings and thus develop better understanding. Another possibility is that adults and adolescents are typically more developed in their cognitive abilities which enable them to apply themselves to learning grammar (Ellis, 2002). While the rate advantage in adult and adolescent learners has been observed in research, it is not possible to establish a definite conclusion about the age issue for grammar learning. One tentative conclusion advanced by Ellis (2002), however, is that the acquisition of grammar appears to be much less sensitive to age than the acquisition of phonology.

In the present study, the average age of the thirty-six participants was nineteen years old; thus, they were considered to be adult learners. All participants had completed seven years of classroom experience in learning English as a foreign language. During the seven years, the participants learned the basics of English grammar and, thus, they can be assumed to possess developed cognitive skills in acquiring grammar rules.

**Language Aptitude**

Language aptitude can be defined as the “capability of learning a language.” This construct can be further understood based on a number of more specific claims made by Carroll (1981). First, aptitude can be viewed as an
attribute variable, or even an innate one. According to Carroll, a learner’s aptitude is unlikely to be altered through training. However, aptitude should not be seen as a prerequisite for one to arrive at a reasonable level of second language proficiency. Rather, aptitude can be understood as a capacity that accelerates language learning and, thus, may make learning easier. Moreover, aptitude is separate from motivation. For example, L2 learners with an innate aptitude are not necessarily motivated to learn languages. Conversely, learners who are motivated to learn a L2 may compensate for limited L2 learning ability. As a result, aptitude needs to be viewed as separate from achievement since aptitude only affects learning outcomes if the learners are motivated to learn and, thus, use their intrinsic abilities (Ellis, 2002).

According to Carroll (1965), language aptitude is determined by four factors. The first is a phonemic coding ability, which refers to the ability to spell and to connect the relationship between sounds and symbols. The second is grammatical sensitivity, which is learners’ ability to recognize and utilize the grammatical functions of individual words in discourse. The third factor, inductive language learning ability, concerns how learners handle the association between form and meaning. Finally, Carroll discussed the ability to form and remember the relationship between stimuli, which he called as “rote learning ability.”

In the present study, the participants did not take an aptitude test; therefore, their aptitude cannot be described here. However, during the
treatment, the participants were observed to be sensitive about the differences among the meanings that the conjugation of individual English conditional tense verbs entailed. For example, in the discussions of the grammatical rules for English conditional sentences, the participants in the experimental group were able to correctly identify the grammaticality of the sentences their peers composed. In addition, the participants were capable of properly applying the rules introduced to them by the researcher in the given contexts. This observation seemed to show that the participants in the experimental group had a reasonable grammatical sensitivity, which allowed them to acquire, retain, and then use the English grammar forms under investigation.

Moreover, the experimental group was able to correctly associate the form with the meaning and vice versa after the explanations were given by the researcher. This skill is particularly important for Chinese-speaking learners to master the English conditional structures, due to the fact that Mandarin Chinese does not have tense and aspect in its verb system. Chinese-speaking learners of English typically have difficulty in applying correct forms to express themselves in the sentences like, “If my grandmother had still been alive last year, she would have been able to attend my sister’s wedding in Ohio.” According to the results of the present study, the experimental group improved the accuracy of their use of such target patterns, so participants could be reasonably assumed to possess the ability to recognize patterns of correspondence between form and meaning in
the area of English conditional tense usage. This inductive language learning ability is essential in language aptitude, as hypothesized by Carroll (1965).

This study investigated learners’ grammatical accuracy in spoken English; therefore, participants’ phonemic coding ability also played an important role in their performance. During treatment, when the experimental group practiced using the target forms in oral communication, the researcher had no problem understanding the “sounds” they made in presenting the corresponding “meanings” and “symbols.” In the post-task discussions about the posttest grading with the two raters, they also agreed that the participants had accurate pronunciation in general and that they did not have difficulty understanding the participants. This observation appears to show a certain level of phonemic coding ability in the participants’ language aptitude.

In sum, the participants in the present study seemed to possess some important traits in language aptitude that enabled them to learn and improve their oral usage. However, a definite conclusion about what and with how much language aptitude the participants were innately equipped cannot be made without further scientific aptitude tests. Therefore, readers are asked to use the information described above as an informal reference when comparing it to their own teaching and learning contexts.
Motivation

In language classrooms, motivation is often discussed with reference to achievement. In SLA research, motivation is also considered to be one of the key factors in L2 learning. Gardner (1985) defined motivation as “the combination of effort plus desire to achieve the goal of learning the language plus favourable attitudes towards learning the language” (p.10). Whereas learners have different underlying reasons for studying a foreign language, motivation typically refers to “the directed effort individual learners make to learn the language” (Ellis, 2002, p.509).

In the present study, participants’ desire and motivation to improve their spoken accuracy were not measured. However, during the five sessions of the treatment, interaction among peers and the researcher was displayed and recorded on the video tape. The observed classroom behaviors during the treatment that were associated with “effort” included the fact that the participants attended the sessions on time, answered directed implementer questions, often volunteered to answer, provided correct answers, were engaged in the tasks, and frequently asked questions to clarify their understanding about English conditional structures. These behaviors seemed to suggest that the participants were motivated to improve their oral English. Therefore, when the readers compares the traits of the participants in the present study with their own situations, this characteristic should also be considered.
According to Ellis (2002), an assumption can be made that active learners, who take part in classroom interactions frequently, will achieve more than passive learners. Thus, the motivation which the participants possessed possibly contributed to their improvement on their posttest as well. However, although the classroom efforts were observed during the treatment, as Ellis cautions SLA researchers, the relationship between learner participation in the classroom and ultimate achievement still remains uncertain. That is, motivated learners do not necessarily excel in their L2 learning. Therefore, further research is needed before reaching a conclusion about how motivation and achievement are correlated in the field of second language education.

This section has described the participants in relation to their age, language aptitude, and motivation. The purpose was to provide information about the characteristics of the participants so the readers can make reasonable comparisons with and generalization for their own contexts.

5.2.4 English Conditional Structures

The “English conditional structures” were a fixed factor in the present research design. By definition, a factor is fixed when the levels under research are the primary levels of interest. The purpose of the study was to examine the effect of the treatment on the oral accuracy in the English conditional usage as they are sometimes challenging grammar patterns to teach and to learn. Since
the English conditionals were the only level studied in the present research, any
definite conclusion concerning if similar effects can be observed for different
aspects of grammar would require additional research.

Conditional sentences are syntactically more complex than some other
English structures partially because they consist of two clauses, a subordinate
clause and a main clause. Additionally, with respect to semantics, the English
conditionals are also challenging for many ESL and EFL students because the
meaning of the various types of conditional sentences are subtle and often hard
to explain, even for native-speaking ESL and EFL teachers. Moreover, before
ESL and EFL students can cope with the full range of English conditional
sentences, they need to have a command of the English tense-aspect system,
negation, and modal auxiliaries. Furthermore, ESL and EFL textbooks and
reference grammars typically provide oversimplified explanations. The fact that
comprehensive descriptions are not widely available also makes English
conditional structures difficult to master (Celce-Murcia and Larsen-
Freeman, 1999).

The nature of the English conditional sentences, the pedagogical
presentation of the rules, and how to use them seem to be the main justifications
to explain the challenges. Whereas linguistic nature of grammar cannot be
changed, an improved pedagogical presentation of the grammar rules can often
help enhance learners’ understanding. The treatment, a combination of detailed
grammar explanations, practice using the conditional aspect rules, and peer
discussions of performance, improved the participants’ oral accuracy in using the
English conditional sentences for the possible reasons discussed in section 5.2.1
Reasons for the Improvement.

Another important factor leading to the success in the learners’
performance is related to nature of English conditionals: the rules can be
explicitly explained without many exceptions. This linguistic feature may not be
evident across all English rules. Since EEGI was designed within the theoretical
framework of explicit grammar instruction, the situations where the rules cannot
be clearly explained or they consist of many exceptions would be problematic.

5.2.5 Different Groups of Learners

Explicit Experienced Grammar Instruction is a teaching method aiming at
improving the grammatical accuracy of advanced English learners. It would be
ideal when EEGI is implemented in the occasions where advanced learners are
challenged by particular grammar rules. EEGI was not initially designed for
beginning or intermediate levels because learners at these levels typically do not
have the proficiency to fully communicate in the target language.

As explained in section 3.4 Treatment, all the teaching materials and
activities in EEGI were written and conducted using the target language. The
grammar structures and vocabulary words used to communicate among the
instructor and learners are comprehensive, not confined within certain lessons in
the textbooks. The exclusive use of English in EEGI can provide learners with exposure to and practice in the target language. Oral interaction is as important as grammar instruction in EEGI because oral communication is considered to be a crucial factor in shaping the learners’ developing language (Omaggio-Hadley, 2001). However, to benefit from this approach, learners need to be able to comprehend what is said to them. Beside the receptive skills, listening and reading, the learners’ speaking skills also play a crucial role in EEGI. Step 3, *Peer Discussion*, requires the participating learners to use the target language to interact with one another for the following reason. When metalinguistic discussion is done interactively with the structure of the target rules being the topic of discussion, the utterances from the interlocutors are considered to be input. The language samples embraced in the discussions are input because these samples provide language-specific information which communicates with whatever innate structures the learner brings to the learning situation (Gass, 2003). The input generated in Step 3 is important because discussions of grammar in the target languages can offer the learners another opportunity not only to reinforce their understanding of the rules, but also to practice using the rules as real communication. In order to avoid conversation breakdowns in the discussions, the learners are expected to possess the ability to communicate.

In the present study, EEGI promotes the learning of grammar in a communicative fashion. Due to the nature of EEGI, learners can be best served if
their L2 proficiency levels allow them to get their meaning across. Learners at beginning or intermediate levels may benefit from EEGI if classroom teachers incorporate this approach to support or supplement the learning. However, the effects of EEGI on learners at other levels than advanced needs further research.

5.2.6 Research Participants’ Fluency

One of the concerns when the development of spoken accuracy is promoted in L2 classrooms or by SLA search has been that deliberate attention to accuracy may slow down a second language learner’s fluency. Given that possibility and the acknowledgement of the role of fluency, the researcher also analyzed the data to answer the second research question “Does EEGI impair the participants’ fluency?” In the present study, the two raters who assigned the scores of language accuracy of the participants were also rated the participants’ fluency using the following rubric.
The results of the fluency data analysis, as presented in section 4.6 Secondary Research Question: Analysis of Fluency Scores, showed that EEGI did not seem to harm the participants' fluency. The experimental group that was instructed to attend to the form outperformed the control group in their accuracy and kept up with the same level of spoken fluency as the control group. This result is encouraging for L2 classroom teachers who would like to enhance the level of accuracy for their students but may be worried about a possible loss of fluency.

A loss of fluency has been the concern when it comes to issues of accuracy development across different levels of L2 proficiency. This concern
seems to suggest that fluency is key in one’s language proficiency and that accuracy and fluency may be negatively correlated. However, as the ACTEL Guidelines illustrate, a proficient learner should be able to express himself or herself with “ease, accuracy, and fluency” (Swender, 1999). It is clear in the ACTFL Oral Proficiency Interview rubric that neither accuracy nor fluency can be absent from one’s language profiles if a high level of oral proficiency is the goal. Therefore, attention to and instruction on accuracy in EEGI are meant to create a proficiency-oriented classroom where the learners can use the language with the target structures and receive appropriate and prompt feedback with which they can “progressively build and refine their interlanguage to approximate the target language norm” (Omaggio-Hadley, 2001, p.272). Although fluency is not a focus in EEGI and thus is not explicitly promoted, all of the steps in EEGI encourage learners to use the language correctly, which includes fluency.

During the L2 learning process, even when the efforts and cognitive resources required to maintain accuracy affects fluency, it should be considered a necessary phase before one reaches the professional levels of L2 proficiency. The concern about fluency should not stop one from pursuing accuracy. As Leaver and Shekhtman (2002) cogently pointed out “grammatical fluency” (p.24) is certainly not an oxymoron for a virtually proficient language learner. Proficient L2 speakers should possess qualities, accuracy and fluency, in their
speeches. Therefore, it is incumbent upon L2 classroom teachers to assist their students with grammatical accuracy, even if it sometimes may need to be at the expense of fluency.

5.3 Implications

The findings of the present research have implications for formal grammar instruction, English teacher candidates, and foreign language teacher education programs.

5.3.1 Formal Grammar Instruction

Research has long been conducted to study whether formal instruction, defined as “quantity of practice directed at specific grammatical feature” (Ellis, 2002, p.617), causes increased production L2 accuracy, and results differ from study to study. A study by Pica (1985) suggested that some grammar rules can be performed more accurately when learners are assisted via formal instruction. For example, the instructed group in her study produced plural –s more accurately than the naturalistic group; however, no difference was found in the subjects’ performance on the English articles. Ellis (2002) commented on Pica’s study findings by suggesting that grammar instruction “only aids the acquisition of features which are formally easy to acquire and which manifest a transparent form-function relationship” (p.620).

One explanation for the success of grammar instruction in the present study, as discussed previously, is that the linguistic feature of the English
conditional sentences is formally accessible to L2 learners (Celce-Murcia and Larsen-Freeman, 1999). The finding agrees with Pica’s research conclusions, and it may contribute to an understanding of which grammar rules are teachable. A review of the literature regarding grammar instruction shows that English structures tested in research are plural –s, possessive –s, 3rd person singular –s, locative prepositions, articles, verb tense –ed and –ing, wh-questions, and auxiliary verbs. These grammatical features are typically syntactically less complicated than, for example, English relative clauses, which involve at least two sub clauses and one relative pronoun. However, this is not to say that these grammar rules are not necessarily easy to master. These types of structural English patterns have been widely researched to determine if they are learnable through grammar instruction. However, few studies have been reported to investigate English conditional sentences. The reasons for a paucity of this type of research could be that English conditional sentences are challenging to teach because they involve English verb tense and aspect system as well as a speaker’s judgment of possibility of the result occurring under certain conditions. The findings of the present study suggested that L2 learners might also benefit from formal instruction on these relatively more complicated linguistic features, even though these rules may not be easy for L2 teachers to teach and may seem to be challenging for L2 learners.
The findings of this study also have implications for the relationship between the stages of SLA development and the effects of formal grammar instruction. In Ellis (1984), it was reported that three hours of formal instruction in *wh*-questions did not result in improved accuracy in a group of 13 child ESL learners when the target structures were elicited in relatively spontaneous oral questions. Reviewing the failure of instruction to work in Ellis’s study, Long (1988) explained that *wh*-questions involve complex syntactical permutations and, thus, are typically acquired at a later stage of L2 acquisition. Since the structure of *wh*-questions was in advance of the research participants’ stage of L2 development, the instruction did not help the 13 child ESL learners to produce *wh*-questions accurately. Ellis’s study suggested that the effects of formal instruction depend on learners’ L2 developmental stage.

The research participants from the experimental group in the present study informally commented on their learning experience during the study. Some reported that the linguistic features of the conditional sentences were not difficult to learn or to use after the rules were explained to them. However, other participants stated that the linguistic features being studied in the treatment still remained challenging for them, though the grammar instruction reduced some of their confusion. The different comfort levels with the English conditional sentences in the study can be explained by a number of individual learner factors, one of which is the developmental stage of the participants in second
language acquisition. The comments from the participants seemed to suggest that conditional sentences are a challenge for advanced learners, and that not every advanced learner can use English conditional structures accurately in their oral speech even with formal instruction. This finding is important because it also suggests that it is unrealistic to expect advanced L2 learners to have full control of the grammar being studied as a result of one-time formal instruction. L2 learners at advanced levels or higher may also require continued formal instruction to support their L2 grammar knowledge.

5.3.2 EFL English Teacher Candidates

In Taiwan, English teachers in grade K-12 classrooms are certified through the Department of Education. Although there are different paths to receive English teacher certificates, all the classroom English teachers are required to have training in the subject content areas, second language acquisition theories, and English pedagogy. Regarding the content knowledge, English teachers typically understand grammar rules and can read and write; however, speaking skills in general have long remained the area in which many teachers need to improve. Moreover, the increasing popularity of the slogan “teaching English using English” has also resulted in a demand from schools, parents, and students for English teachers to speak English well. In a word, English teachers’ spoken proficiency should be consistently developed through their college education and subsequent professional development. It should be kept in mind
that English teachers are after all L2 language learners, and their language skills need to be perfected on a regular basis since language learning is a life-long endeavor.

There are many different aspects in one’s oral proficiency that can be addressed, and each different aspect may necessitate different types of instruction. The present research was concerned with the spoken grammatical accuracy in the participants’ language profiles. In this study, grammatical mistakes of the research participants were consistently observed during the treatment while they used the target English conditional structures to communicate. Examples of their mistakes include:

- If I did not come to this teacher education program two years ago, I will study (?) medical school (English conditional structure #1 under investigation in the present study)
- If I was the Mayor, I would grow tree (English conditional structure #2); and
- If I will go to Japan next week, I will take my boyfriend (English conditional structure #3).

Their inaccurate uses of grammar can be viewed as a step in the natural course of language learning. However, given the fact that research participants were English teacher candidates, it is important to note that their language knowledge
and proficiency would not only affect their personal fulfillment but also have an impact on their future students. The implication is that a L2 teacher’s oral proficiency is likely to impact their students’ L2 proficiency.

A lack of ability to use grammar correctly is likely to affect teaching in different ways. First, teachers who are aware of those mistakes but cannot avoid them may possibly lose confidence in their own English speaking over time and possibly refuse to use English in their class as a result. Second, the teachers who are not aware of their mistakes and keep speaking incorrect English would be systematically exposing their students to grammatically incorrect English. Third, the students who are able to identify the grammatical mistakes in the utterances of their English teachers may lose their trust in the teachers’ abilities. Finally, the students who are unable to discern what is incorrect from what is correct about their teachers’ English output are taking the risk of learning grammatically incorrect English. The four situations described above are certainly unwanted in L2 classrooms.

Research has found that the teacher candidates make grammatical mistakes, and that those mistakes could possibly be improved with formal instruction. Based on these findings, English teacher candidates need to raise their awareness of the important role of grammatical accuracy, refine their understanding of grammar knowledge, and improve their oral skills in using grammar rules.
5.3.3 Foreign Language Teacher Education Programs

A major emphasis in a foreign language teacher program curriculum in Taiwan has been focused on pedagogical knowledge and skills, such as classroom instructional materials and activity designs. This training in these aspects probably provides the preservice teachers with necessary skills to succeed in L2 classrooms. However, it is noteworthy that development in language teacher candidates’ spoken accuracy is equally important.

The observations in the present study showed that, according to the informal comments from the two raters, the research participants were capable of communicating and that it was not difficult to understand what the research participants tried to say. However, grammatical mistakes were frequently observed across the individual participants, described by one of the raters after the he finished rating the pretest. This comment from the rater and an average mean score of 32.7% for the pretest suggest a low degree of spoken grammatical accuracy in the research participants. This particular group of preservice teachers is scheduled to start teaching English in grade K-6 in September 2008, which does not leave them and their teacher education program much time to improve their speaking skills before the teacher candidates’ first sustained contact with their future students. These findings cannot speak about all the individual English teacher candidates in Taiwan or the research participants’ command of every single English grammar rule. However,
this situation should concern the Taiwan Ministry of Education, English teacher education programs, English in-service and preservice teachers, parents of students, and students because English teachers who cannot speak English correctly teach English in Taiwan.

In light of this situation, this study suggested that EEGI be used in English Teacher Education programs in Taiwan as the research result showed the English teacher candidates improved their spoken accuracy at no risk to their fluency. There are different ways to implement EEGI in English Teacher Education programs, and two of recommended approaches are described below.

First, EEGI can be incorporated into English Conversation classes, which are offered each semester in many English Teacher Education programs. Instructors of Conversation classes can observe the performance of their students and keep track of which grammar rules need to be addressed to the students. After the “favorite mistakes” of the students are systematically “collected,” the instructor can then implement EEGI to help their students improve the particular mistakes. The reason why the instructors are encouraged to use EEGI after the mistakes have become evident is that, as Doughty pointed out (1998), grammatical mistakes can be most effectively improved when the learners realize that their incorrect grammar has negatively impacted their communication. In a word, EEGI is effective when the learners are made conscious about the ungrammaticality of their communication.
Second, EEGI could also serve as an independent class offered twice a week through the programs. Each session of the course is recommended to be one hour in duration, and every three to four sessions a new topic could be introduced. The topics (e.g., phrasal verbs, relative clauses, and the tense and aspect system) chosen for the course can be the most commonly seen mistakes among the particular groups of the students based on the instructors’ teaching experiences. The students could also make decisions concerning what topics should be included according to their needs. Grammar books which are written for ESL or EFL learning are also appropriate resources for instructors. However, the sequences of the grammar rules introduced in the grammar books are not necessarily the order the instructors need to follow when teaching the course. Since the students in this class are advanced learners of English, their prior knowledge of and experiences in using the English language would allow them to manage the challenging topics at an earlier stage of the course, even though those topics are typically introduced to the beginners at a later time (e.g., the English conditionals).

Qualifications of instructors in implementing EEGI are important. Three primary tasks in EEGI are grammar explanations, rule applications, and mistakes identification. To explain the rules in pedagogically successful fashion, instructors need to have profound knowledge in English prescriptive grammar and be able to present them to their learners clearly. In order to deliver the knowledge of the
English grammar clearly to Chinese-speaking learners, it is recommended that the instructors also possess an understanding of the Chinese language so they, when appropriate, can make comparisons between the two language systems to enhance learners’ understanding (Ellis, 2002). That is to say, instructors should be sensitive about how Chinese-speaking learners perceive the English grammar so they are more likely to provide useful clarification (Odlin, 1989).

Experiences of using the grammar rules in context (Step Two and Step Four) could play another important role in EEGI; therefore, the instructors need to be able to design linguistically and culturally appropriate scenarios for the learners to apply the target structures. To create a number of proper contexts so the learners can have abundant opportunities to practice the target grammar can be a challenging task for the instructors if they do not have personal experience in using the language in the target cultures. Therefore, to carry out this particular activity successfully, instructors are often expected to possess native or near-native skills in using the target language so they can provide appropriate contexts for their learners to apply the rules correctly. When instructors are not certain about whether the contexts are right for the specific structures, they are strongly encouraged to consult authentic materials, native English instructors, or other resources.

Identifying learners’ mistakes correctly during the natural course of communication requires the instructors to have “very good ears” and be sensitive
to grammatical mistakes. When pinpointing out the mistakes in the learners’ utterances, it is important that the instructors provide their feedback and comments in a constructive way with a sincere attitude. The process of mistake identification can sometimes be frustrating and discouraging for the learners because they can feel embarrassed when speaking in front of the class, especially when their mistakes recur over time. As a result, the learners might be impervious to error corrections (Ellis, 2002). In consideration of the learners’ possible resistance to it, the instructors need to explain the purposes and benefits of mistake identification in advance and carry out this task in a caring learning climate.

A successful implementation of EEGI would require instructors’ support in grammatical accuracy, thorough preparation for the class materials, knowledge in English grammar, English language skills at professional levels, and understanding of the Chinese language. It is not unusual that some instructors probably do not possess all of the required skills. In that case, the implementation of EEGI could certainly be based on the combined strength of two or more instructors. If that should happen, support from universities for additional staffing is important.

5.3.4 Summary

The findings of this study contributed to an understanding of formal grammar instruction. First, grammar instruction can help an advanced L2 learner
to learn a syntactically complex grammar structure, such as the English conditional sentences. Second, an advanced learner can benefit from formal instruction, which is usually offered at beginning or intermediate levels, and thus should receive continued education in linguistic features to support their accurate production in their L2s. Moreover, the study findings have implications for teacher candidates, but additional research is needed in this area. EFL preservice teachers are after all L2 learners; therefore, making mistakes is natural, expected, and understandable. However, since EFL preservice and in-service teachers’ grammatically incorrect speech can impact their teaching quality and possibly also have a negative impact on their students, it is important for them to improve their L2 accuracy. The research findings suggested that their degrees of accuracy in oral performance can be increased by formal instruction; therefore, English teacher candidates and in-service teachers should continue their education in grammar and work to improve their language skills. Finally, based on the research findings, language teacher programs are encouraged to stress the importance of spoken grammatical accuracy to their candidates by including coursework on oral accuracy development into their training programs.

5.4 Limitations for the Study

This study used a pretest and posttest control group design. The research design has limitations in generalizability because the pretests may have sensitized the research participants in ways that the experimental group might
have responded to EEGI grammar instruction in ways that influenced the study results. Additionally, the research participants were not randomly selected. The nature of purposive sampling procedures does not allow generalization of the research results from the sample back to the general population. As a result of these two conditions, external validity remains a limitation in the study. A user of this study needs to generalize the findings to her or his own context with caution.

The English conditional sentences served as a fixed factor in this study. Therefore, the increased spoken accuracy in these grammatical structures does not mean that grammar instruction can necessarily help learners to improve any other English grammar rules. Moreover, since the research participants were advanced learners, the research findings cannot be applied to language learners at different levels of English L2 proficiency.

The posttest in this study was administered three days after the fifth session of treatment, and delayed effects, if any, were not measured. In addition, the present research did not include follow-up posttests; therefore, enduring effects, if any, were not observed. In other words, the observed improvement in the research participants’ oral accuracy may only have represented the performance of the participants on the third day after the treatment ended. Long term effects were not measured, thus producing a limitation of the present study.

Finally, the fact that the research participants were aware of their participation in a study may have had a positive impact on their increased
accuracy. This effect is called the Hawthorne effect. However, the Hawthorne effect did not cause threats to internal validity because both control and experimental groups were explained the study purposes and procedures. However, this effect could be a threat to external validity as other L2 learners might not be as motivated as these research participants.

Given these limitations, additional research is needed to investigate questions that this research could not answer and to explore the trustworthiness of the findings and implications in this study.

5.5 Recommendations for Further Research

This study provided evidence that advanced EFL learners improved their English spoken grammatical accuracy as a result of explicit grammar instruction and also suggested that the improvement was not obtained at the expense of fluency. When considering the effects of explicit grammar instruction, a number of thoughtful questions and concerns relating to grammar competence, formal instruction, and L2 teacher language skills emerged as directions for future research.

- Given the same of instruction and same amount of time to complete the posttest, the research participants in the experimental groups achieved different levels of accuracy. 40% of the variance between the two study groups in the posttest was not explained by the treatment. Does this finding suggest that certain characteristics of learning aptitude are related
to learners’ grammatical competence? Research with an Ex Post Facto design might investigate the relationship between participants’ innate attributes and their achievement on a spoken accuracy test. Such studies can help researchers explain why some learners speak more accurately than others. Moreover, the findings of the research might help L2 programs and teachers to predict how individual students might perform; therefore, L2 teachers could provide appropriate assistance when needed.

- Research with a multiple regression design can help researchers analyze the variability of spoken accuracy (dependent variable) by using information available for two or more independent variables, such as explicit grammar explanations, experience of use L2, motivation, and intelligence. Explanation of the variance of spoken accuracy through a linear relationship of the independent variables to each other and to the dependent variable could show the weights of each variable in spoken accuracy. This type of study would be useful because, for example, the research findings might inform SLA researchers about to what extent that individual factors can explain the variance in L2 learners’ oral accuracy. Based on such findings, L2 classroom teachers can design classroom activities accordingly. For instance, foreign language teachers can focus class tasks on oral drills if the research findings show that oral drills play a significant role for one to speak accurately.
The present research findings confirmed that formal instruction increased advanced learners’ spoken accuracy on English conditional sentences. However, additional research is needed to identify specific ways in which teaching might significantly enhance grammatical competence. Studies with a 3 X 3 X 2 factorial design could establish causality between research participants’ oral accuracy (dependent variable) and independent variables: (1) language proficiency (three levels: beginner, intermediate, and advanced); (2) linguistic features (three levels: easy, median, and challenging); and (3) formal instruction (two levels: no instruction and formal instruction). The research design can be visualized in the following table:

<table>
<thead>
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<th>Beginner Group</th>
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Studies with this design could explore the questions such as following:

- Given the same linguistic features, what are the effects that grammar instruction might have on the oral accuracy in the three groups at different proficiency levels?
- For the same groups of learners, how might explicit grammar instruction affect their performance on the three above linguistic features?
- Does the instructed group outperform the non-instructed group across different linguistic features and different proficiency levels?

The findings of this research could have implications for L2 classroom teachers regarding how formal instruction can help their students who are at different stages of SLA development. A meta-analysis should also be employed to “analyze a large collection of analysis results from individual related studies for the purpose of integrating the findings” (Glass, 1976, p.3). The findings could also contribute to an understanding of L2 researchers about teachability of grammar rules in relation to learners who are at different proficiency levels. Foreign language curriculum writers could also use these research findings to re-define the role of grammar instruction in their L2 programs.

- Given that the degree of spoken accuracy in nonnative L2 teachers’ language skills is likely to differ, multi-institution studies could describe
and compare the effectiveness that specific teacher training programs designed to promote awareness of and skills in spoken accuracy. Correlational studies can investigate how L2 teacher candidates’ spoken accuracy may vary with the hours and types of classroom instruction on spoken language received in L2 programs. Study findings about individual programs and comparisons among different programs could offer valuable information for institutional efforts to design effective curricular regarding teacher candidates’ language proficiency. The present study did not assess the impact of policies in English teacher education programs relating to language skills that affect teaching quality. Comparisons among different teacher education programs that are committed to developing the language skills of their student teachers and thus promote teaching quality with those whose students are not proficient might shed light on the relevance of such curriculum policies to teacher candidates and subsequently their future students.

- At the end of the present study, some research participants approached the researcher expressing concerns about their spoken accuracy. The participants reported that they were interested in having coursework such as EEGI in their program to improve their speaking skills. Foreign language teacher education programs should be sensitive to students’ needs and offer coursework to help them speak with their L2s more
accurately. Survey research could describe the needs of L2 preservice teachers. Such studies might also explore what and how specific language skills L2 preservice teachers think would enhance their teaching efficacy. Findings of the survey research might serve as an important indicator about what coursework foreign language teacher education programs should offer to strengthen teacher candidates’ language skills.

- The relationship between fluency and accuracy has been an issue discussed in the professional research literature regarding grammar instruction and communicative language teaching. It seems to be commonly acknowledged that one’s fluency could be affected if she or he tries to speak with a high degree of grammatical accuracy or vise versa. Because of this issue, some SLA researchers and L2 classroom teachers try to prioritize the importance of these two competences for learners by putting more emphasis on one than the other at particular times during instruction. How does a focus on accuracy relate to a loss of fluency in one’s language performance? Additional research is needed to help language teaching professionals to understand the relationship between accuracy and fluency so researchers and teachers can make appropriate pedagogical decisions that are in the best interest of L2 learners. Concurrent correlational studies could explain the relationship between the degree of accuracy and the fluency in L2 learners. Studies could
include L2 learners with different characteristics as research participants so users of these studies could compare the relationship between accuracy and fluency in different groups of learners. For example, the influence of accuracy on fluency in advanced learners may differ from that of superior learners. Another useful comparison that these research findings might produce is how the relationship between accuracy and fluency in the case of European language speakers differs from that of Asian language speakers who are learning a language like English.

Studies that address these types of questions might enhance understanding of the nature of L2 grammar instruction and its effects on spoken accuracy in L2 contexts. Research on these types of questions might also seek to articulate the impact of different types of grammar instruction and how to identify the mechanisms through which these impacts occur.

5.6 Chapter Summary and Conclusions

In this dissertation the researcher attempted to provide an overview of formal grammar instruction, reported the effects of explicit grammar instruction on oral accuracy, and explained the need to develop grammatical competence for EFL teacher candidates. The existing literature on formal grammar instruction does not show a definitive consensus about the impact on L2 learners’ language proficiency. Some research (Krashen, 1985, Schwartz, 1993, and Schwartz and Sprouse, 1996) has advocated a skeptical position concerning the role of explicit
grammar instruction in the course of second language acquisition. On the other hand, some studies (Sharwood Smith, 1980, White, 1991, Kadia, 1988, Pienemann, 1985, and Doughty and Varela, 1998) have highlighted a positive result of formal grammar instruction.

The present study provided evidence that supported an accommodating role of formal, explicit grammar instruction in second language learning. Moreover, this research also revealed that enhanced oral grammaticality did not seem to harm the participants’ fluency. This finding contributes to an understanding of the relationship between accuracy and fluency in a L2 learner’s language proficiency. This finding also supported what Leaver and Shekhtman (2002) proposed for advanced learners, “grammatical accuracy is not a tautology, and grammatical fluency is not an oxymoron” (p.24). In other words, accuracy and fluency are correlated, and further study is needed to identify both the type and strength of the correlation.

In the review the language programs across universities in Taiwan and the United States, relatively few programs seem to direct their L2 learners to achieve high advanced or superior levels of proficiency. However, an awareness of the need to develop such programs has grown over the years (Leaver and Shekhtman, 2002). Therefore, with the evidence from the present study, the researcher recommends that both foreign language programs and language teacher education programs increase a focus on grammatical competence for L2
learners, since it is needed as an aspect of achieving higher levels of L2 language proficiency. In addition, language programs should promote the awareness of this important competence among their learners and implement Explicit Experienced Grammar Instruction (EEGI), or some other appropriate approach, to assist their L2 learners. With institutional support, L2 learners should have the opportunity to develop their advanced grammatical competence and, therefore, have a better chance to speak the target language in grammatically correct and sophisticated ways.
REFERENCES


APPENDIX A
INTRODUCTION OF THE RESEARCHERS AND RESEARCH
Introduction of the Researchers and Research

Dear participants:

Thank you very much for your interests in this study. YOUR participation is very important to the present study and crucial to the advancement of our knowledge in language acquisition. I appreciate your valuable time and your contribution to the research.

The researchers:

The present study is conducted by Ching-Hsuan Wu (吳青璇), who is a Ph.D. candidate in Foreign and Second Language Education at The Ohio State University (OSU), Columbus, Ohio, U.S.A. Ms. Wu received her bachelor degree in the Department of Foreign Literature and Languages at the National Sun Yat-Sen University (國立中山大學), Kaohsiung, Taiwan in 1998. In 1999, Ms. Wu came to the United States to pursue her graduate studies. In 2001, Ms. Wu was awarded her first master degree in Teaching English to the Speakers of Other Language at OSU. In the same year, she continued her education in the Japanese Pedagogy master program at OSU. After the graduation with the second Master degree, Ms. Wu started her doctoral study in 2003. Currently, Ms. Wu is working on her dissertation and expects to graduate in March 2007.

Dr. Charles R. Hancock is the Associate Dean in the College of Education at the Ohio State University and the academic advisor of Ching-Hsuan Wu. The present research is conducted under Dr. Hancock’s supervision.
The research:

The present research is to investigate the effect of instruction on English teacher candidates’ spoken accuracy. The research is conducted to contribute the knowledge to the field of second language acquisition and additionally to fulfill the partial requirement of the doctoral study. The study will start on June 7, 2006 and finish on June 21, 2006.

The study uses a true-experimental design. That is, the participants will be randomly assigned to control and experimental groups, which will allow the researcher to compare participant results. The experiment has three steps: pretest, treatment, and posttest. The pretest and posttest will take 15 minutes each, and they will be administered in the format of one-on-one oral interviews. In the interviews, we will have some casual conversations in English, and the interviews will be videotaped for post-rating. The treatment has 5 sessions, and each session will be 50 minutes in duration. The entire experiment will be videotaped for the purpose of data analysis and will not be used for any other purpose.

A copy of the study results will be mailed to you in appreciation for your participation.

Your Confidentiality

Your personal information, language performance during the treatment, and responses in the pretest and posttest obtained in the present study will be kept confidential. All the data will be deleted after the completion of the study. None of the specific information about participants will be publicized outside of the study.
Voluntary Participation

Your participation is voluntary. You can refuse to answer questions that you do not wish to answer, and you can refuse to participate or you can withdraw at any time without penalty or repercussions.

Contact Information

If you have any questions, please feel free to contact me.

Phone Number: 02-28340243
Email: wu.337@osu.edu

You can also contact Dr. Hancock via email. Hancock.2@osu.edu

Thank you again for your participation and contribution to the filed of language education.

Sincerely, Ching-Hsuan Wu
APPENDIX B

THE OHIO STATE UNIVERSITY CONSENT TO PARTICIPATE IN RESEARCH
The Ohio State University Consent to Participate in Research

Study Title:
Spoken Grammaticality and EFL Teacher Candidates: Measuring the Effects of an Explicit Grammar Teaching Method on the Oral Grammatical Performance of Teacher Candidates in an English Teacher Education Program in Taiwan

Investigators
Dr. Charles R. Hancock
Ms. Ching-Hsuan Wu

• **This is a consent form for research participation.** It contains important information about this study and what to expect if you decide to participate. Please consider the information carefully. Feel free to discuss the study with your friends and family and to ask questions before making your decision whether or not to participate.

• **Your participation is voluntary.** You may refuse to participate in this study. If you decide to take part in the study, you may leave the study at any time. No matter what decision you make, there will be no penalty to you and you will not lose any of your usual benefits. Your decision will not affect your future relationship with The Ohio State University.

• **You will be provided with any new information that develops during the study that may affect your decision whether or not to continue to participate.** If you decide to participate, you will be asked to sign this form and you will receive a copy of the form. You are being asked to consider participating in this study for the reasons explained below.
1. **Why is this study being done?**

   The study is to investigate how instruction can improve English language learners' spoken accuracy.

2. **How many people will take part in this study?**

   This study involves two researchers, two implementers of the treatment, thirty participants, and two raters.

3. **What will happen if I take part in this study?**

   You will take one pretest, which can demonstrate your speaking skills before the instruction. Then you will participate five sessions of instruction, either grammar instruction or movie discussions. Finally, you will take one posttest, which will allow the researcher to measure the improvement.

4. **How long will I be in the study?**

   Seven days. The pretest will take approximately 15 minutes on the first day. The instruction will take 50 minutes each day for five days. The last day, the posttest will be administered, and it takes around 15 minutes.

5. **Can I stop being in the study?**

   You may leave the study at any time. If you decide to stop participating in the study, there will be no penalty to you, and you will not lose any benefits to which you are otherwise entitled. Your decision will not affect your future relationship with The Ohio State University.

6. **What risks, side effects or discomforts can I expect from being in the study?**

   The procedure of videotaping will be used for the research purposes. This procedure might make some of you uncomfortable in that you feel being monitored. However, this procedure will help the researcher accurately document what goes on during the study and thus correctly analyze the data. In addition, this procedure can serve as evidence and thus protect you in that what you encounter during the study is what was explained to you before the study.
7. **What benefits can I expect from being in the study?**

You will experience different teaching techniques, practice speaking English, and see how research is conducted. Additionally, your participation in the study will help the field of language education know more about how students learn a second language and thus improve instruction. Your contribution will, therefore, benefit language learners.

8. **What other choices do I have if I do not take part in the study?**

You may choose not to participate in the study without penalty or loss of benefits to which you are otherwise entitled. However, we sincerely invite you to participate. Without your participation, this study will not be as complete as it can be.

9. **Will my study-related information be kept confidential?**

Efforts will be made to keep your study-related information confidential. However, there may be circumstances where this information must be released for university purposes. For example, personal information regarding your participation in this study may be disclosed if required by state law. Also, your records may be reviewed by the following groups (as applicable to the research):

- Office for Human Research Protections or other federal, state, or international regulatory agencies;
- The Ohio State University Institutional Review Board or Office of Responsible Research Practices;

10. **What are the costs of taking part in this study?**

The study will not cost you any money but only your time as explained in Question #4.

11. **Will I be paid for taking part in this study?**

You will not be paid.
13. **What are my rights if I take part in this study?**

If you choose to participate in the study, you may discontinue participation at any time without penalty or loss of benefits. By signing this form, you do not give up any personal legal rights you may have as a participant in this study.

You will be provided with any new information that develops during the course of the research that may affect your decision whether or not to continue participation in the study.

You may refuse to participate in this study without penalty or loss of benefits to which you are otherwise entitled.

An Institutional Review Board responsible for human subjects research at The Ohio State University reviewed this research project and found it to be acceptable, according to applicable state and federal regulations and University policies designed to protect the rights and welfare of participants in research.

14. **Who can answer my questions about the study?**

For questions, concerns, or complaints about the study you may contact Ching-Hsuan Wu via phone (Taiwan 02-28340243/ U.S. 614-353-4791) and email (wu.337@osu.edu).

For questions about your rights as a participant in this study or to discuss other study-related concerns or complaints with someone who is not part of the research team, you may contact Ms. Sandra Meadows in the Office of Responsible Research Practices at 1-800-678-6251.
I, ..................................................................................................................., understand the nature of the research and other information that was explained to me. When I have questions, I know I can always contact the researcher, Ching-Hsuan Wu, via email or phone. I agree to be videotaped for the research purposes and understand all my personal information, including the videotapes, will be kept confidential. I also agree to take the pretest, receive the instruction, and take part in the posttest as part of research procedures. Finally, I acknowledge that I have read and fully understand this consent form. I sign it freely and voluntarily. A copy has been given to me.

Sign your name:

Print your name:

Date:
Personal Information Questionnaire

The information you are going to provide is ONLY for research use and will NOT be released for any other purpose. The information about you will help the researcher understand your educational background and thus be able to incorporate it into data analysis and result discussions. You can use either English or Chinese to fill up this form. Thank you very much for your help.

Contact Information

1. Name:

2. Home phone number:

3. Cell phone number:

4. Email address:

5. Mailing address:

6. Best time to contact you by the phone:

Personal Information

1. Nationality:

2. Native language:

3. Other language(s) that you speak

4. Age:
5. Year in college:

6. Have you lived in any English-speaking country?  
   If yes, when, where, and for how long?

7. What classes are you taking this semester?

8. What classes did you take during your freshman year?

9. Do you SPEAK English in school settings? How often? Would you please briefly describe the situations where you speak English?

10. Do you SPEAK English outside of school? How often? Would you please briefly describe the situations where you speak English?

11. What is the most challenging part in learning and using English?
12. Why did you choose the Children English Teacher Education program?

**Education Background Information**

1. Name and location of your elementary school:

2. Name and location of your junior School:

3. Name and location of your high School:

4. Number of years that you have studied English:

5. Have you ever studied in an English-speaking country (i.e., exchange student, study abroad)?
   
   If yes, when, where, and for how long?

6. Have you studied English outside of school (i.e., private institute, private tutor)?

   If yes, when, where, and for how long?
APPENDIX D

SIGN-UP FOR THE PRETEST AND POSTTEST
Sigh-up for the Pretest and Posttest

Please choose ONE session for the pretest and ONE for the posttest. Please provide your name, email address, and your cell phone number in the box that you chose for your oral interviews so that I can contact you. Each session will take approximately 15 minutes. Thank you very much for your participation.
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APPENDIX E

POWERPOINT SLIDES

PRETEST: OIL LAMP WIZARD
Oil Lamp Wizard

1. 如果現在你有三個願望，你想要做什麼？為什麼？
   (If...)
2. 如果你去年就知道你今年會撿到這個神燈，
   會有三個願望，那你覺得你過去一整年的生活會有什麼
   改變？
   (If...)
3. 如果你將會有三個願望，而且你可以決定什麼時候許願,
   那會想要什麼時候許願？許什麼願？
   (If...)
1. If you had three wishes, what would you like to do? Why? (If...)
2. If you had known as early as last year that you were going to have three wishes this year, what would you have done differently in the past year? (If...)
3. If you were to have three wishes and you were to decide when to have them, when would you like to make your wishes? What would you ask for? (If...)
APPENDIX F

POWERPOINT SLIDES

POSTTEST: GENDER ASSIGNMENT
Gender assignment

隨著醫學技術日新月異，
決定新生寶寶的性別已經不是一件不可能的事。
但礙於法律以及人道立場，決定性別仍就有許多爭議。
今天關於這個話題，想請你對以下的問題用英文說說你的看法。

如果在你當初出生時，你就可以決定你自己的性別，你會選男生還是女生？(If...)為什麼？
如果你的選擇和你現在的性別不同，
那你覺得這個選擇之下的人生會和你現在的人生會有什麼不一樣？(If...)

如果你是女生/男生，你覺得你的過去，現在，和未來會是什麼樣？(If...)

假設你明年要生寶寶了，你可以選擇寶寶的性別，而且你也一定要選擇，
你會選什麼？(If...)為什麼？
Gender assignment

As medical technology advances, choosing the gender for newborn babies is no longer impossible. However, due all respect to the law and human rights, this issue is still very controversial. Concerning this topic, what is your positioning? Please address the following questions in English.

If you could have chosen your own gender before you were born, which gender would you have chosen? (If…)
Why?
If your choice is different from who you are now, what would you have done differently in the past? (If…)

If you were a girl/boy, what do you think you would have done in the past, what you would be doing now, and what you will do in the future? (If…)

If you were to have a baby next year and you were to choose the gender for your baby, which gender would you choose? Why?
APPENDIX G

THE RUBRICS FOR THE PRETEST AND POSTTEST
The Rubrics for the Pretest and Posttest

Instruction to the Raters:

1. Two aspects of the performance to be graded are grammar and fluency.
2. In EACH videotaped interview, each interviewee answered THREE questions in order. The performance in each question is to be rated for the two aspects INDIVIDUALLY. That is, each QUESTION has its total score of 48 points and thus each INTERVIEW has its total score of 144 points.
3. The digital clips of the 60 interviews are sequenced, and each of them is assigned an ID number. The ID number will show on the screen right before the interview starts. You are provided 60 grading packets. Each has an ID number on the top of the first page. Please confirm that the ID number on the grading sheet matches the ID number of the interview clip before you start to watch each clip.
4. You can pause the clip in the middle of an interview to review and/or take notes for grading purpose.
5. Under each aspect of the performance in each question are SIX levels of the proficiency. Please circle ONE description for each aspect that matches the interviewee’s performance in that aspect. You can circle on the score that corresponds to the description. For example

<table>
<thead>
<tr>
<th>• Grammatical Accuracy in the CONDITIONAL structures</th>
<th>Description of criterial level</th>
<th>Score</th>
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</thead>
<tbody>
<tr>
<td>Descriptions of criterial level</td>
<td>Constant errors showing control of very few major patterns and frequently preventing communication</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Frequent errors showing some major patterns uncontrolled and causing occasional irritation and misunderstanding</td>
<td>18</td>
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</tbody>
</table>
6. You are welcome to include notes for the assigned grades so that we can discuss any controversial cases.

7. Please spend approximately 2 weeks to finish rating the 60 interviews. We will compare the scores on the third week. Thank you very much.
**Student ID: 001**

### Pretest

**The Oil Lamp Wizard**

**Question 1: If you had three wishes, what would you like to do? Why?**

- **Grammatical Accuracy in the CONDITIONAL structures**

<table>
<thead>
<tr>
<th>Descriptions of criterial level</th>
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- **Fluency**

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</table>

**Subtotal** /48
Question 2: If you had known last year that you were going to have three wishes this year, what would you have done differently in the past year?

- Grammatical Accuracy in the CONDITIONAL structures

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Subtotal: __/48
Question 3: If you were to have three wishes and you were to decide the timing to have them, when would you like to make your wishes and what would you ask for?

- Grammatical Accuracy in the CONDITIONAL structures

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Subtotal: __________/48

Total of the Pretest Oral Interview for Student ID# 001

__________/144
**Student ID: 001**

### Posttest

**Gender Assignment**

**Question 1:** If you could have chosen your own gender before you were born, which gender would you have chosen? Why? If your choice is different from who you are now, what would you have done differently in the past?

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**Subtotal**

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**Question 2:** If you were a girl/boy, what do you think you would have done in the past, what you would be doing now, and what you will do in the future

- **Grammatical Accuracy in the CONDITIONAL structures**

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**Subtotal** /48
**Question 3: If you were to have a baby next year and you were to choose the gender for our baby, what would you choose? Why?**

- **Grammatical Accuracy in the CONDITIONAL structures**

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**Subtotal** | __/48

**Total of the Posttest Oral Interview for Student ID# 001**

________/144
APPENDIX H

TEACHING MATERIAL: AUTHENTIC LANGUAGE SAMPLES
Session One: Monday, June 12, 2006

Teaching material: Authentic language samples

#1
(http://www.xanga.com/veve)

Thinking back on the effect that my grandmother has had on me, I think of all the family gatherings that she was indirectly responsible for and I think of all the happiness that she was indirectly and directly responsible for. You see ..... if my grandmother had never made the trek over to America, there would be no excuse for my cousins to come over and visit. She basically was the glue to our family .... without her, I'm not sure what we would have done. We would all probably be very distant and not the close, operative family unit that we are now.

#2
(http://www.golfonline.com/golfonline/rules/wtr/theball/article/0,17742,469634,00.html)

What are the rulings?

Since John did not know that Bill lifted his ball, John is not penalized (Decision 15-3/3). If John becomes aware of the mistake before playing from the next tee, he is required to replace his ball on the correct spot, without penalty, and complete the hole. If he learns of the mistake after playing from the next tee, his score stands and there is no penalty.

If John were aware that Bill had lifted his ball, he would have been penalized two strokes and required to replace his ball on the correct spot and play out the hole. When the ball is lifted, it is no longer the ball in play until it is returned to the proper place, and is technically a wrong ball.

In match play, Bill would be penalized one stroke for marking John's ball without authorization and would lose the hole if he allows John to play without replacing the ball. If John authorizes Bill to mark the ball, John would lose the hole if he then plays the ball from where it lies after Bill set it aside.
My mother was a housewife, also married to an Air Force member. Through proper financial planning on the part of my father, combined with retirement plans from both the Air Force and his civilian employers, they have no want for money to maintain a comfortable life. If my father were to pass, that same money would take care of my mother until her time comes. So, even though she was "just a housewife," she need not worry; the burden for her financial well-being falls to her family, as it should, and not to strangers on the other side of the country.

She would be surprised perhaps by how some of the dramatic themes she introduced played out. The whole play is about moral choices — taking chances to make things better. She had a moral mind. She thought the great question of her time was whether the different races in America could learn to treat each other with justice and grace. I can't imagine she'd guess that members of an eager audience in the year 2004 would have become such moral dullards that we wouldn't understand something as basic as an abortion, and what it is. If she were alive now I wonder if she would be surprised, or shocked, that that moment no longer worked as a dramatic plot point because the audience had changed so much in its understanding of the basics.

If I were going to change my name, I would want to change my first name to Rachel. Seriously though, I want to keep the name that links me to my children. Plus, do you KNOW how many places you have to contact once you’ve changed your name??!! Just changing my address was a pain in the neck.
Who is Maggie?

Maggie is 75, a little forgetful and lives alone. She is the face of Hunter Health’s new, “Perfecting Healthcare Delivery” program and represents the 500,000+ Hunter people, young and old, to whom we provide health care.

Sometimes you are frustrated by our systems. Imagine what it’s like for Maggie!

Imagine that Maggie has had a fall and needs emergency medical help. What happens to Maggie when she reaches a Hunter Health emergency department? What if Maggie needed surgery or had to visit another one of our services. What would her experience be like and how can we make it better?
APPENDIX I

POWERPOINT SLIDES

EXPERIMENTAL GROUP TREATMENT SESSION 1
Doctoral Dissertation Data Collection:
English Conditional Sentences

Ching-Hsuan Wu Ph.D. Candidate

The Ohio State University
Explicit Experienced Grammar Instruction

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explicit Grammar Instruction</td>
<td>Initial Experience</td>
<td>Peer Discussion</td>
<td>Culminating Experience</td>
</tr>
</tbody>
</table>
Meaning of conditional sentences

Celce-Murcia and Larsen-Freeman, 1999
4 types of **imaginative** conditionals

|------------------------|---------------------------------------|------------------------|--------|

1. **Past Counterfactual**

- If I had not gone to the U.S. to work on my doctoral degree, I would have been married.
- Jessica would have gone to Japan if she had studied Japanese in college.
- What would you have done if you had won the lottery last Friday?
- Justin could have made it to your wedding if he had not had the car accident.

4 types of **imaginative** conditionals

1. Past Counterfactual  
2. Present counterfactual/hypothetical  
3. Future hypothetical  
4. MIX

2. Present counterfactual/hypothetical

- If I **went** to school in Taipei, I **would live** with my parents so I **could take care** of them.
- Jessica **would go** to Japan if she **spoke** some Japanese.
- **What would you do** if you **won** the lottery?
- Justin **would come** to your party if he **did not have to prepare** for the BAR exam.

*Source: [http://www.englishpage.com/conditional/conditionalintro.html](http://www.englishpage.com/conditional/conditionalintro.html)*
4 types of imaginative conditionals

1. Past Counterfactual
   - If I were to study cooking, I would go to France.

2. Present counterfactual/hypothetical
   - I believe that if he were going to go to Italy for the conference next month, he would take you with him.

3. Future hypothetical
   - If he were not to visit his grandmother in San Francisco this weekend, he would be attending the faculty meeting as usual.
   - If it were to rain, I would stay home. / If it rains, I will stay home.

Source: http://www.englishpage.com/conditional/conditionalintro.html
## 4 types of imaginative conditionals

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### 4. MIX

- If I had won the lottery, I would be rich.
- If Mark had gotten the job instead of Lyndel, he would be moving to New York next month.

- If I were rich, I would have bought the house by the beach.
- If Megan could stay in Taiwan for a few more months, she would be speaking fluent Chinese.

- If Maggie were to move to England, she would have applied to college there.
- If Greg were giving a speech tomorrow, he would be preparing right now.

ANY QUESTIONS?

Thank you for your valuable time!
APPENDIX J

POWERPOINT SLIDES

EXPERIMENTAL GROUP TREATMENT SESSION 2
Step 2: Initial Experience

1. Review
2. Experience

The Ohio State University
4 types of imaginative conditionals

1. Past Counterfactual
   - Jessica would have gone to Japan if she had studied Japanese in college
   - If I had not gone to the U.S. to work on my doctoral degree, I would have been married.

2. Present counterfactual/hypothetical
   - Justin would come to your party if he did not have to prepare for the BAR exam.
   - What would you do if you won the lottery?

Source: http://www.englishpage.com/conditional/conditionalintro.html
3. Future hypothetical

- If I were to study cooking, I would go to France.
- If he were not to visit his grandmother in San Francisco this weekend, he would be attending the faculty meeting as usual.
- If it were to rain, I would stay home. / If it rains, I will stay home.

4. MIX

1. Past Counterfactual
2. Present Counterfactual/Hypothetical
3. Future hypothetical

- If I had won the lottery, I would be rich.
- If Mark had gotten the job instead of Joey, he would be moving to New York next month.
- If I were rich, I would have bought the house by the beach.
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- If Greg were to give a speech tomorrow, he would be preparing right now.

Review

Source: http://www.englishpage.com/conditional/conditionalintro.html
Step 2: Initial Experience

Amanda had a bad day!
Step 2: Initial Experience

Present counterfactual/Hypothetical conditionals

If you were Mayor Ma, what would you do to make Taipéi a better city?

If humans could fly, what would our world be like?

Picture Source: http://www.ma19.net/
Step 2: Initial Experience

Future hypothetical conditional

If you were to visit Japan next week, who would you take with you? Why?
Any Questions?

Thank you very much!
APPENDIX K

POWERPOINT SLIDES

EXPERIMENTAL GROUP TREATMENT SESSION 3
Step Three: Peer Discussion

The Ohio State University
Context
Past counterfactual conditionals
Amanda had a bad day!
Context

Present counterfactual/Hypothetical conditionals

If you were Mayor Ma, what would you do to make Taipei a better city?

If humans could fly, what would our world be like?

Picture Source: http://www.ma19.net/
Context
Future hypothetical conditional

If you were to visit *Japan* next week, who would you take with you? Why?
4 types of **imaginative** conditionals

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**EXAMPLES**

- If I had won the lottery, I would be rich.
- If Mark had gotten the job instead of Joey, he would be moving to New York next month.

- If I were rich, I would have bought the house by the beach.
- If Megan could stay in Taiwan for few more months, she would be speaking fluent Chinese.

- If Maggie were to move to England, she would have applied to college there.
- If Greg were giving a speech tomorrow, he would be preparing right now.
Any Questions?

Thank you very much!
APPENDIX L

POWERPOINT SLIDES

EXPERIMENTAL GROUP TREATMENT SESSION 4
Step 4: Culminating Experience
Step 4: Culminating Experience

Life is full of turning points, and each turning point marks a special moment. Your decision to study in a teacher education program may have already made your life significantly different from what the life might have been. Think about:

What other choices could you have made and where would you be now if you had not come to the teacher education program?

Instruction:
1. Pair yourselves up and spend 5 minutes on discussion.
2. Come back to the class to discuss the question.
3. When using the conditional sentences, please keep the grammatical patterns in mind.
Step 4: Culminating Experience

Winning the lottery can make your dreams come true.

If you were to win the lottery jackpot, what would you do?
Any Questions?

Thank you very much.
APPENDIX M

POWERPOINT SLIDES

EXPERIMENTAL GROUP TREATMENT SESSION 5
Step Three: Peer Discussion

The Ohio State University
Procedures

- Watch a video clip
- Pay attention to the contexts and the patterns used
- Stop the video clip and discuss any problematic usages
- Provide corrective feedback
Contexts

- Life is full of turning points, and each turning point marks a special moment. Your decision to study in teacher education program may have already made your life significantly different from what the life could have been. Think about:

  **What other choices could you have made and where you would be now if you had not come to the teacher education program?**

- Winning the lottery can make your dreams come true.

  **If you were to win the lottery jackpot, what would you want to?**
Any Questions?

Thank you very much.
APPENDIX N

PRETEST ACCURACY SCORES: SHAPE OF DISTRIBUTIONS
Pretest Accuracy Scores: Shape of Distributions
Boxplot of Pretest Accuracy Scores
APPENDIX P

POSTTEST ACCURACY SCORES: SHAPE OF DISTRIBUTIONS
Posttest Accuracy Scores: Shape of Distributions
APPENDIX Q

LINEAR RELATIONSHIP

BETWEEN THE COVARIATE AND DEPENDENT VARIABLE
Linear Relationship between the Covariate and Dependent Variable

R Sq Linear = 0.184
R Sq Linear = 0.278