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FonF 教學對以英語為外語青年學習者 寫作中使用英語動詞過去式之效益

The Effect of FonF Instruction on Young EFL Learners'
Use of English Past Tense in Academic Writing

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摘要

本研究旨在檢驗三種 FonF 教學方式:指正性回饋 (CF),輸入強化 (IE) 及 思處指引 (PI) 在三面向的成效。此三面向分別是:(1) 強化高中學生英文寫作 -看圖說故事-使用動詞過去式的整體效益;(2) 比較每項教學方式間的相對效 益,以及(3)效益的延續性。本項研究於台北艋舺一中實施,160位來自四個班 級的高一學生分成四組,一對照組,三實驗組,四組都接受二階段前測,一階段 選擇,一階段寫作文,為看圖說故事題型。前測之後,進入實驗階段,三實驗組 接受各教學活動,活動後填寫檢視學生學習期間注意力的問卷。最後,全四組學 生接受後測、延遲後測、皆為寫作、題型為看圖說故事。動詞過去式使用的正確 率計算後輸入統計軟體分析,使用重複量數雙因子變異數分析、單因子變異數分 析、事後分析(Scheffe)以及重複量數單因子變異數分析,數據結果的判讀輔以問 卷所顯示的學生接受教學期間意識型中的注意力多寡程度。結果顯示 FonF 整體 有效強化學生對過去式的注意,此發現與指正性回饋大部份的文獻結果吻合,指 正性回饋是FonF教學活動的一環,大部份的文獻支持在寫作中使用指正性回饋。 在 FonF 教學方式中,思處指引與指正性回饋成效大於輸入強化,成效延續到了 延遲後測。此三項教學方式的成效差異,其中可能的原因為學習者的意識與思辨 處理機制,本研究的討論著眼於此。

關鍵字:FonF、指正性回饋,輸入強化、思處指引、英文寫作、過去式

Abstract

This study aimed to examine three Focus on Form (FonF) treatments: corrective feedback (CF), input enhancement (IE) and processing instruction (PI), in terms of (1) the overall efficacy on fostering high school students' ability in applying the past tense in picture-story writing; (2) the relative efficacy of each treatment after comparison; and (3) the sustainability of the efficacy. Assigned to four groups, 160 first-grade students from four intact classes in First Manka Senior High School first received a two-fold pretest, with multiple choice questions and a picture-story writing task. Conducted next in the treatment session were the treatments of the three pedagogical activities and a post intervention where students filled out a questionnaire, for the purpose of examining learner noticing. Finally, there were a posttest and a delayed posttest, both of which contained a picture-story writing task. Accuracy ratio was accounted for and analyzed, using a two-way repeated-measure ANOVA, and a one-way ANOVA, followed by Scheffe post-hoc analysis. The interpretation of the outcome was complemented by the responses from the questionnaires, which elicit learner responses that reflect the extent of awareness involved. The finding showed that FonF pedagogical treatments as a whole were facilitative of enhancing learners' awareness of the target language form, which echoes CF literature, which is itself a form of FonF pedagogical treatment, and most of which favored the conduction of

corrective feedback in writing instruction. Among the FonF pedagogical treatments, PI and CF were more effective than IE, with the efficacy sustained in the delayed post test. The differences among the three FonF treatments can be accounted for by the factor, among possible others, of learner awareness and processing mechanism involved.

Key words: FonF, input enhancement, corrective feedback, processing instruction, EFL writing, English past tense

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Glossary

Focus on Form (FonF)

Long first introduced the notion of focus on form pedagogical technique as one which "...overtly draws students' attention to linguistic elements as they arise incidentally in lessons whose overriding focus is on meaning or communication" (Long, 1991, pp. 45-46). This definition was more theoretical (Doughty & Williams, 1998). The later definition is more operational:

Focus on form often consists of an occasional shift of attention to linguistic code features – by the teacher and/or one or more students – triggered by perceived problems with comprehension or production. (Long & Robinson, 1998, p. 23)

It is pointed out that focus on form (FonF) should be distinguished from focus on formS, in which language teaching focuses on training learners to master bits of knowledge and information about the target language. FonF entails a prerequisite engagement in meaning before attention to linguistic features can be expected to be effective (Doughty & Williams, 1998).

Input Enhancement (IE)

Sharwood Smith defined input enhancement (IE) as "a deliberate attempt to make specific features of L2 input more salient in order to draw learners' attention to

these features" (1991, p. 118). This "deliberate attempt" can be manifested in different ways.

There are many ways of drawing attention to form without indulging in metalinguistic discussion. A simple example would be the use of typographical conventions such as underlining or capitalizing a particular grammatical surface feature, where you merely ask the learners to pay attention to anything that is underlined or capitalized. (Rutherford & Sharwood Smith, 1985, p. 271)

Sharwood Smith further introduced a continuum of explicitness. At the explicit end, a metalinguistic rule explanation might be found (Sharwood Smith, 1991). To this end, corrective feedback such as those with marking, underlining, provision of accurate form and linguistic explanation can be categorized as an input enhancement technique.

In the present study, one experimental group is labeled IE but with a narrower sense. It refers to the technique applied by Park (2004). Namely, it is a pre-writing handout with passage where the target structure is typographically enhanced.

Textual enhancement

Textual enhancement is a type of input enhancement technique. It refers to the typographical manipulation of the target structure for the purpose of increasing its saliency to facilitate learner noticing. Typographical manipulation usually involves the application of boldface type, underlining, italics, or slight enlargement of fonts. It can

also involve written accurate usage of a target form, and stipulation of linguistic rules in response to learners' writing errors.

Input processing

VanPatten suggests, "...processing refers to making a connection between form and meaning... a learner notes a form and at the same time determines its meaning (or function). The connection to meaning may be partial or it may be complete" (VanPatten, 2004, P6). Partial connection of form to meaning may result in insufficient competence in production and thus inaccurate usage when learners write. Compared with input enhancement, which emphasizes the manipulation of external variables, input processing emphasizes those internal to the learners.

Processing instruction

Processing instruction (PI) is a type of focus on form instruction that is predicated on a model of input processing. The goal of PI is to help L2 learners derive richer intake from input by having them engage in structured input activities that push them away from the strategies they normally use to make form-meaning connections.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

In Taiwan, high school students' writing receives little attention on average. In particular, among the four skills in English, productive skills are less catered to by the instructors than receptive skills. Teachers and learners dedicate a considerable amount of time and energy in training reading and paralanguage, with peripheral, if not zero, effort on passage-composition. Formal training/instruction on writing takes little class time, correction is scant, and only on occasions such as taking an examination do students take time to put thoughts into language. This occasion, however, offers very little time for them to decently ponder over, organize, and write about assigned topics. In addition, throughout a semester, there are not many such occasions—three as usually is the case for pilot examinations. Students, without a doubt, have little chance to write.

With few opportunities for writing practice, it comes as no surprise that students dread writing, viewing it as something that they would avoid as much as possible.

Organization and other rhetorical structures result from poorly constructed passages.

It all boils down to the fact that sentences are not accurately written.

One of the many prevailing writing mistakes for high school students in Taiwan is the concept of the past tense. Some English language learners tend to ignore the context and framework of time and apply one tense—the present tense. Others might switch between the present and the past tenses, and thus blur the function of time-reference. Still others could not distinguish the past tense from past participle when verbs are regular. This confuses the reader.

The past tense is taught in the early stages of language learning, but it is not mastered or acquired even after many years of instruction.

The failure to acquire the past tense change little even when corrective feedback (CF) is given. There is no lack of practices and examinations which aim to evaluate students' acquisition of the past tense. For officially three years of junior high school education, students who enter senior high, despite their previous training, cannot master the concept of framework of time. Translation practice clearly shows the insufficiency of language demand in terms of the past tense. In addition to the training from examinations, writing exercises, such as what has been mentioned, translation, and article composition also constitute reinforcement condition for students. Such being the case, students have abundant opportunities to practice what they learn, but there seems to be very little success. Personal experience as a frontier teacher further confirms this observation. In the past year, my students were assigned with a

considerable amount of writing practices in classes. Many pieces of writing from students continue to show errors on the past tense despite the fact that I did correct all their mistakes.

The accuracy of the past tense, though it is not the whole of writing ability or language proficiency, is a facet of composition which requires linguistic accuracy, and can hardly be neglected when forming overall impression of the writers' learning results.

In recent years, there has been a tendency for English writing test in General Scholastic Test (GST) to adopt the picture-story-telling method. For the past eight years, this type of writing test has appeared seven times (from 2004 to 2011, with the exception of 2008). In storytelling, the past tense is a major request and a demonstration of the learners' command of linguistic accuracy. Instead of focusing on the basic principles of passage writing as usually seen with topic sentence, supporting sentences, relevance, and cohesion, story-telling requests learners to take into consideration what is seen and what is a possible event occurrence and to put plots, developments, or description into words. That is to say, the description of actions accounts for major writing effort. In addition, considering the fact that in English, the core of each sentence is a verb; it is apparent that the use of the past tense prevails nearly throughout the entire passage and shows how learners view the world, whether

from the perspective of native language or of the target language.

1.2 Statement of the Problem

Facing the task, senior high school teachers and students, when doing the practice, usually apply the procedure in which students write and submit and then teachers provide CF either on form or content, or on both. Yet, more often than not, the improvement in accuracy is limited, and teachers often find that correction leads to varied efficacy. This is part of the reason why offering CF is seriously opposed by Truscott (1996), who claimed that it is harmful. However, CF has been statistically proven by many studies as effective, in that most studies have yielded positive results, after overcoming flaws in experiments.

CF in writing has been exploited in many aspects. In early studies, there were controversies in methodology (such as lack of a control group), interpretation of statistics, generalizability of efficacy, to name just a few. Some studies involved direct provision of explicit feedback, while others enlisted indirect implicit feedback. Target structure varies from less obtrusive ones such as definite and indefinite articles, to more salient ones like reported speech. The number of target structure varies, too, from single to multiple ones. Most of the factors found in the literature on CF, however, are confined to external variables that can be manipulated, recorded, and

controlled. Little effort has been dedicated to probing internal factors, such as noticing and processing.

Noticing of the target form is also the aim of another alternative pedagogical treatment, Input Enhancement (IE), as used by Park (2004). Unlike CF, which is a posterior response to learners' errors, IE anticipates possible areas in need of treatment and draws learners' attention to the target form, and thus is a prior referential input for learners. It makes use of typographical modification, such as the use of bold face, italics, underline, or slightly enlarged font, to enhance perceptual saliency to facilitate learner noticing. Similar to CF, IE shifts learners' attention during meaning-oriented activities to linguistic forms with documented materials. However, IE is not as widely applied as CF in writing instruction in Taiwan. It is less examined in writing training.

Empirical studies (Park, 2004; White, 1998; Jourdenais, Stauffer, Boyson, Doughty, 1995) have indicated that treatments such as IE and CF can indeed temporarily induce learner noticing of the target structure, but whether noticing would lead to further/deeper processing (i.e., turning input into intake/uptake) is seldom extensively studied.

To probe the issue of processing in writing instruction, another pedagogical intervention technique developed in recent years, Processing Instruction (PI), should

be taken into consideration. Developed in order to hone learners' accuracy in decoding input, PI considers learner universal processing strategies when providing pedagogical intervention, in the hope of providing an optimal decoding/encoding environment to transform the input into intake. There are several studies conducted to examine PI on learning linguistic forms with significant efficacy, such as those on the French causative (VanPatten & Wong, 2004), the Spanish Ser and Estar (Cheng, 2004; Farley, 2004), and the Italian future tense (Benati, 2004), to name just a few. In the ESL context, however, it is yet to be applied and examined in writing training. In particular, PI-related studies have rarely been conducted in the EFL context, which is the case in Taiwan.

1.3 Purpose

Since IE and PI consider noticing and learner universal processing, which are seldom studied in the CF literature, in consideration of how linguistic accuracy in writing can be solidified, the research interest here therefore takes a step further to include, in addition to CF, these techniques (i.e. IE & PI) that take learners' internal noticing and processing variables into consideration. Although Processing Instruction has been proposed as a pedagogical intervention for more than 10 years, it has received less attention in L2 writing research, as compared with IE and CF research.

The purpose is to examine whether there are ways other than CF, which Taiwanese high school teachers can adopt, to hone their students' linguistic competence, and which can possibly achieve equal or better efficacy.

1.4 Significance of the Study

This study aims to explore the possibility of applying alternatives to traditional pedagogical methods that deal with learners' linguistic errors, that is to say, on how English composition can be trained via ways other than burying oneself in piles of paper scrutinizing every minor linguistic error that can otherwise be more efficiently treated. If confirmed, the alternative techniques can be widely applied in basic writing programs designed to train learners' writing, providing the program developer insight into new techniques when they design writing materials. Teachers would be more certain when they conduct writing courses to increase learners' linguistic accuracy in writing, saving much energy that has to be otherwise channeled onto correction. Learners would witness actual improvement in writing, which rests upon their dedication to the course and the effort they make, rather than feeling at a loss, not knowing what to pay attention to when composing. Much more class time can be devoted to other aspects of writing. The correction can be directed to those errors often found in Taiwanese students' writing.

1.5 Organization of thesis

This thesis will proceed in the following sequence. Chapter Two provides relevant literature review on focus on form, the three pedagogical techniques, CF, IE and PI, the constraints of focus on form, and issues in attention and awareness. From the gap determined in the review, there are three research questions brought forward. Chapter Three is concerned with the methodology which was applied in conducting the current study, including design, setting, participants, operationalization, target structure, procedure and instruments, and correction guidelines. Chapter Four will present research results with statistical interpretations. Chapter Five will illustrate insights gained from findings on the research questions and statistical results, discussions, and limitations of this study, from which possible gaps for future research will be brought forth.

CHAPTER TWO

LITERATURE REVIEW

The previous chapter has briefly addressed IE, CF and PI. Although aiming at raising learners' accuracy in form, these three pedagogical treatments are to be embedded in writing instruction, where meaning is still the overriding focus. Such occasional shift of learners' attention (from meaning to form) corresponds to a language teaching concept, focus on form, which is a common ground where IE, CF and PI are often implemented. This teaching concept will be reviewed first, followed by more detailed discussion of each pedagogical treatment, constraints, and issues in processing. Research questions will be presented at the end of the review.

2.1 Focus on form

In the compiled work of Long in 1998, language teaching was generally categorized into three dimensions, focus on forms (traditional), focus on meaning (innovative) and focus on form (eclectic). They differ on the implicit or explicit choice of the learner or the language to be taught as the starting point in course design (Long & Robinson, 1998). Traditional language teaching tends to focus on mastering parts of a language, with meanings cast aside, and little attention is paid on language

use. Innovative teaching methods emphasize the interchange of meanings and language use, viewing language as an inseparable "whole" instead of "parts." The concern for accuracy is rendered in peripheral status. What comes as a compromise between these two stances is what has been called focus on form (FonF).

FonF is a teacher-initiated act that caters to the learners' linguistic needs. As Long (1999) suggested, language instructions with FonF require major teaching/learning energy spent on communicative tasks, with occasional shift of learners' attention to specific linguistic form, guided by the teachers.

There are two different types of FonF. As Park (2004, p. 2) reviewed Long's FonF, the early formulation of FonF was featured by "incidental attention to form in response to a communicative need that takes place during lessons where overriding focus is placed on meaningful communication," while in a subsequent compiled work, FonF has been extended to involve "pre-analysis of learners' linguistic needs to identify the forms in need of treatment, precedence of learner engagement with meaning over code, and succinct and unobtrusive treatment". In other words, in the initial version, FonF occurs as a reaction to a communicative need or a communication breakdown, be it oral or written. Due to this reactive nature, it is thus referred to as reactive FonF. The later version can take place with pre-designed syllabus targeting certain linguistic feature before the treatment. Hence, it is referred

to as proactive FonF (Park, 2004).

In light of this division, reactive FonF includes pedagogical techniques like CF (DeKeyser, 1993), itself a linguistic reminder within meaningful texts, and proactive FonF includes those like input enhancement (Park, 2004), target form visually protruded within meaningful texts and VanPatten's (1991) processing instruction (Han, Park, & Combs, 2008), whose core feature is the referential and affective structured meaningful activities (more details about IE and PI provided below on page 20 and 24).

2.2 Corrective feedback in focus on form

Due to the fact that CF, provided in (L2) writing instruction, "typically consists of negative feedback teachers provide in response to learners' actual or perceived errors" (Park, 2004), and the fact that it forges enhancement of saliency for target features in text (Han et al, 2008), CF can be perceived as one type of reactive FonF pedagogical intervention. In the past two decades, myriads of studies have been conducted on the efficacy of CF on students' linguistic accuracy in writing, with positive results. However, in this line of inquiry, the essence of CF as a pedagogical intervention in SLA (reactive technique in focus on form) and inextricable theoretical base concerning the role of noticing and processing in learning have received

relatively little exploitation, which will shortly be reviewed below.

Many studies have examined the efficacy of CF (Bitchener, 2008; Bitchener & Knoch, 2010; Bitchener, Young, & Cameron, 2005; Chandler, 2003; DeKeyser, 1993; Ferris & Robert, 2001; Sheen, 2007). Most showed that CF is beneficial to students' writing accuracy, after overcoming a few flaws.

In earlier CF studies, a common flaw concerned the research design (Sheen, 2007). The lack of a control group, for example, limited the generalizability of the efficacy and application of CF. Another insufficiency was that the effect of CF was mostly confined to the revision of students' original work. The effect of CF to new pieces of writing was yet to be investigated. In light of the aforementioned insufficiency, later studies on CF enlisted control groups as well as extended the experiment into examining whether the effect of CF would be sustained in the composition of new writing pieces. Along with these improvements of earlier flaws, the number of target structures has also been narrowed down, from multiple into single one, so as to facilitate learner noticing. Other factors related to efficacy of CF, such as analytic ability, were also examined. Sheen (2007) found that individual learners with higher analytic ability tend to benefit more from CF.

The efficacy of CF has been examined along the criterion of directness.

Bitchener (2005) questioned "whether certain types of CF (more direct) are more

likely than others (less direct) to help L2 students improve the accuracy of their writing" (cited in Bitchener, Young, Cameron, P193). In an attempt to address the above inquiry, issues regarding directness of CF were then explored in many studies. Bitchener et al.'s (2008) study is a case in point. According to Bitchener, "direct CF may be defined as the provision of the correct linguistic form or structure above or near the linguistic error...written meta-linguistic explanation ... and/or oral meta-linguistic explanation" (Bitchener et al., 2008, p. 105). He sought to find out whether different corrective feedback (indirect vs. direct) would have a different effect on accuracy and whether this accuracy, if any, would be capable of being sustained into new pieces of writing. Seventy five students took part in this study. They were divided into four groups. Group one (17 students) received direct error correction for each targeted error category, as well as written and oral meta-linguistic explanations. Group two (18 students) received direct error correction for each targeted error category and written meta-linguistic explanation. Group three (20 students) only received direct error correction for each targeted error category. Group four the control group (20)students). The procedure followed was pretest-treatment-posttest-delayed posttest. It was found that written CF had a significant effect on improving accuracy in the use of the English article system and that this level of accuracy was retained two months later without additional feedback or instruction (Bitchener et al., 2008).

The efficacy of CF has also been examined in terms of the nature of the CF provided to learners. Bitchener and other researchers investigated whether CF of a different nature (written vs. oral; explicit vs. implicit; individual five-minute conference) given to 53 adult migrant students on three types of error (prepositions, the past simple tense, and the definite article) resulted in improved accuracy in new pieces of writing over a 12-week period (Bitchener, Young, & Cameron, 2005). They found that the CF with both written and individual oral meta-linguistic explanation is significantly more effective than that with only written meta-linguistic explanation, which is yet more effective than mere CF. In light of his finding, Bitchener (2007) thus suggests that direct feedback reduces confusion when students deal with errors. This is especially true with lower proficiency learners. Direct feedback is preferred in the pedagogical setting (Ferris & Helt, 2000).

What also influences the efficacy of CF is whether errors are treatable or not (Ferris, 1999). Ferris suggests that treatable errors are those whose correct usage can be sought and consulted in reference materials such as grammar books. Treatable errors are the errors made on verb tense and form, subject-verb agreement, article usage, plural and possessive noun endings, to name just a few. What they have in common is that they are all rule-governed. Untreatable errors, on the contrary, are

those whose usage cannot be easily guided or manipulated in reference materials.

It would be ideal if treatable errors can be treated with direct CF. This view has been examined in some CF studies (Ashwell, 2000; Butler, 2002; Chandler, 2003; Sheen, 2007). So far, the result is positive. For instance, Bitchener *et al.* (2005) found that the combination of full, explicit written feedback and one-to-one conference feedback enabled the learners to use the past simple tense and the definite article with significantly greater accuracy in new pieces of writing than was the case with their use of prepositions. It can be inferred that the use of prepositions is relatively untreatable, compared with definite articles and verb tense, which are rule-governed.

The efficacy of CF can also be influenced by the number of forms that are targeted in a given pedagogical session (one vs. two or more). In reviewing existing CF literature, Sheen (2007) found that some CF studies did not yield positive result and that this disparate finding might be attributed to the fact that "the linguistic feedback was not sufficiently focused and intensive" (Sheen, 2007). Multiple targeted forms would distract learners' attention than single targeted form. With insufficient attention to form, there will be little subsequent processing, which in turn affects learning.

Such processing issues have not been extensively studied in the CF literature. It is assumed that upon receiving CF, learners' attention to the content would be directed

to the linguistic form (the input), and that if attention is successfully directed, intake of the target form will follow. However, input cannot be transformed into intake without noticing and processing (Schmidt, 1990). Although techniques aimed at directing learners' attention to the target form are a prerequisite for noticing and processing of the form, they do not necessarily guarantee that learners would linguistically process the target form. Therefore, while literature suggests that CF is facilitative of the perceptual saliency of the target form, it cannot be assumed that it also speaks to learner processing. Furthermore, given the fact that there is not always a match between external saliency (consciousness raising feedback provided by teachers, e.g., CF) and internal saliency (learners' attention determined by learning agenda, readiness of linguistic development), CF does not always ensure that learners are able to proactively and actively analyze the enhanced input, turning it into intake. In other words, CF is a necessary but insufficient condition for learning the target form.

Some researchers, particularly psycholinguists (VanPatten, 1990), argue that the enhanced input needs to be carefully structured to cater to learners' universal processing strategies, so as to create an optimal encoding/decoding environment for the learners. Such a view will be reviewed in section 2.4, processing instruction in focus on form.

2.3 Input enhancement in focus on form

Similar to CF, the input enhancement (IE) was defined as "a deliberate attempt to make specific features of L2 input more salient in order to draw learners' attention to these features" (Smith 1991, p. 118). The first half of this definition concerns input saliency, which is usually achieved by typographical modification, when input is manifested in texts. The latter half of the definition is about arousal of learners' attention, to facilitate noticing and processing. However, it was indicated that...

...the bulk of the [input enhancement] research...focuses mainly on the effect of instructional modification as measured by the relationship between the input learners receive and their subsequent linguistic performance. Lacking in this line of research is the investigation of the learners' processing of input. (Jourdenais, Stauffer, Boyson, Doughty, 1995)

In short, the efficacy of IE in arousing noticing and processing is seldom examined.

Lack of involvement in probing noticing and processing may not lead to satisfying results in empirical studies. White's (1998) study yielded such insight. She sought to find out whether typographically enhanced input and extensive reading and listening would make learners progress further in the acquisition of third person singular pronouns and possessive determiners. Three groups were formed. Group E+ (N=27) received a typographically enhanced input flood in addition to extensive reading and listening. Group E (N=30) received a typographically enhanced input

flood. Group U (N=29) received a typographically unenhanced input flood. The result did not support the hypotheses of this study.

In White's discussion on the result, (the between-group differences were reduced and thus no significant statistical evidence was generated to support her hypothesis) a few possible reasons were given. The first is about the salience created by the multiple-choice test given to all the three groups that contrasted possessive determiners (PDs) of *his* and *her*. The test given was supposedly a source of input which aroused learners' attention across three groups. The second is about the similarity between enhanced input and unenhanced input. Due to the similarity between English (L1) and French (L2) and the fact that learners were not provided with information about PD agreement, "interlingual contrast" did not enter the learners' awareness because "none of the treatments focused the learners' attention" (White, 1998).

White suggested that more explicit pedagogical technique such as brief rule explanation could be applied at the beginning of the input enhancement period or part of the way through it to help learners structure the input.

The findings suggest that, although drawing the learners' attention to a linguistic feature may be sufficient to speed up acquisition of that feature, implicit FonF instruction (such as IE) may not be adequate in cases involving L1-L2 contrast. For

cases that involve such contrasts, therefore,

...Learners may need somewhat more explicit information about the L1-L2 contrasts in order to progress to more advanced developmental stages. The ways in which this information can be combined with ... increased salience are in need of further investigation." (p. 106)

In short, learner noticing of the L1-L2 contrast and subsequent processing should not be overlooked.

Other IE studies that do consider learner processing strategies when designing input in input manipulation have observed positive effect. The Jourdenais *et al.*' study in 1995 is a case in point. The aim of the study was to find out whether IE would promote learner noticing of the target forms and subsequently affect production of writing. Fourteen native speakers of English were involved in this study. Learners were required to read a script (enhanced and unenhanced for experimental group and comparison group). Then they were asked to compose and meanwhile they had to verbalize what they were thinking simultaneously. The whole procedure was taped and recorded.

The finding supported the hypothesis. The results suggested that the input modification created a difference between the two groups. The two groups differed significantly in their percentage of explicit mentions of preterit and imperfect verbs in the enhancement participants' protocol. The analysis of the written production also demonstrates a striking difference between the two groups in their overall use of the

past tense. The enhancement group "simply provided more target forms in obligatory contexts in their written production" (Jourdenais *et al.* 1995).

Contrary to the previous finding, Park (2004) did not reach positive result. Park assigned handouts of model passage for learners in both control and experimental groups to read before they wrote. The contents of the passages in both groups were identical. The difference was that, in the handout for experimental group the target structure was printed in boldface. The typographical saliency is where the input enhancement was manipulated.

The result shows that increased perceptual saliency does not necessarily lead to learner noticing of the form(s). Noticing is largely dependent on internal, cognitive factors, such as learner readiness, L1 knowledge and L2 learning experience. Also, there is the attentional capacity to consider. Learners tend to process input for meaning before they process it for form. In addition, due to the fact that attentional capacity is limited, the target structure should be minimally enhanced for facilitation of learner processing. Park (2004) concludes that...

FonF studies should pay special attention to the learner's limited attentional capacity with regard to the nature of the target linguistic form as well as the FonF technique employed. (p. 20)

That is to say, taking limited attentional capacity into consideration, the target structure should be minimal and learner processing cannot be overlooked. This latter

point leads us to one proactive FonF technique, processing instruction.

2.4 Processing instruction in focus on form

Processing instruction (PI) might be questioned as to whether it should truly be regarded as one FonF technique, in that it is mainly featured with pedagogical emphasis on learner processing. To clarify the doubt, it is necessary to have a glance at what PI is.

There is a set of procedure that is consisted of a few steps (see Van Patten, 2005):

- 1. Learners are given information about a linguistic structure or form.
- 2. Learners are informed about a particular input processing strategy that may negatively affect their picking up of the form or structure during comprehension.
- 3. Learners are pushed to process the form or structure during activities with structured input—input that is manipulated in particular ways so that learners become dependent on form and structure to get meaning (i.e., learners are pulled away from their natural processing tendencies toward more optimal tendencies).

The initial explicit teaching is a move to inform learners of their non-target forms and of their previous habitual (less optimal) processing strategy. External stimuli that push the learners out of the less optimal strategy are then given by engaging learners in structured task-essential activities. Structured task-essential input activities are those specifically manipulated in a particular way involving written and aural endeavors, in which learners are propelled to get meaning from form and structure. Structured input activities can be divided into referential and affective activities.

Referential structured input activities are those which involve only right or wrong answers and for which the learner must rely on the targeted grammatical form to get meaning. Here is one example:

Students' instructions: Listen to each sentence. Then indicate when the action takes place by answering each question.

- 1. Did John jog sometime in the past, or does John jog as a habit?
- 2. Did Mary go to bed late or does she go to bed late?

Affective structured input activities are those where learners express an opinion, belief, or some other affective response and are engaged in processing information about the real world. Here is one example:

In this activity, you will compare and contrast what George did in the winter vacation and what he does in everyday life with what your classmate(s) did in the winter vacation and what your classmate(s) do in everyday life.

To optimize the efficacy of PI and to provide learners with an optimal encoding environment for the target structure, Van Patten contends that referential structured input activities, which are more controlled, need to precede affective structured activities, which are more open-ended.

While not the entire PI procedure matches the FonF principle, a crucial and vital part which accounts for the major efficacy of PI does fit FonF. Regardless of the differences in implementation sequence, both referential and affective structured activities aim at directing learners' attention to the target form with focus on

contextualized meaning-oriented activities. In this regard, the structured input provided in PI neatly corresponds to the FonF framework.

The efficacy of PI is supported by a few studies (VanPatten & Wong, 2004; Cheng, 2002; Wong, 2004; Benati, 2004). VanPatten and Wong (2004) conducted a study to see whether PI is superior to traditional instruction (TI), which was defined and operationalized as a presentation of explicit information concerning the form or structure, followed by a move from mechanical, through meaningful, and finally to communicative exercises. The comparison between PI and TI was made on two facets: the interpretation and production of target form, the French causative. Final research question concerned whether the efficacy, if any, would hold to a delayed posttest or not. Participants from two universities (U1 and U2) were divided into Processing group (U1 n=18, U2 n=11), Traditional group (U1 n=11, U2 n=9), and Control group (U1 n=14, U2 n=14). Both experimental groups received explicit information about the French causative. The result showed that, in terms of interpretation, there was a difference between the three groups, with the Processing superior to the Tradition, which was in turn superior to the Control. In terms of production, both experimental groups were superior to the Control group. When test-taking strategy is taken into account, however, the Processing group is superior to the Traditional group.

The difference between Processing and Traditional was that, in the

explicit-information-giving phase, the Processing group received information about the word order problem that learners of French are confronted with, while the Traditional did not. In the activity phase, the differences can be summarized as follows:

Structured input activities in the processing group required participants to attend to both meaning and form to successfully complete the activities but they were never required to produce the target structures; activities in the traditional packet always required participants to produce the target forms. (p. 104)

In other words, structured input activities were of crucial status that distinguished the different outcomes of the experimental groups (Traditional Teaching vs. Processing Instruction). Since structured input activities aim to treat how learners process what they learn, it is not difficult to generate that PI particularly concerns learner processing, as compared with TI. As the researchers indicated, "If subjects in a traditional group are given the chance to process before practice as in Allen's study, one might expect no difference between the two groups on the interpretation test after treatment" (VanPatten & Wong, 2004). VanPatten thus suggested that PI is overall superior than TI and that future studies could generate PI to other structures to further examine its pedagogical value (2004, p. 113).

The significance of structured input activities was further examined and supported by VanPatten and Oikkenon (1996). They recruited 59 participants studying Spanish at a high school in Champaign, Illinois, and divided them into three groups: a

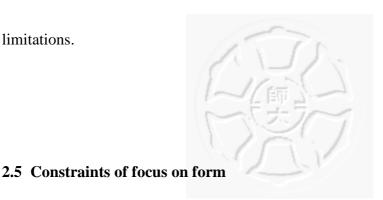
control group with regular processing instruction (17 participants), a group which received explanations only (22 participants), and a group which received structured input activities (20 participants). After receiving the treatments, the participants were assessed in terms of interpretation and production. The results showed that the significant improvement on the interpretation test was due to the presence of structured input activities but not to the explicit information provided during the explanation phase. As for the production test, although the explicit information could also be attributed for the improved performance, it was not as significant as the structured input activities. Therefore, "explicit information may enhance performance on the production test...[and] structured input significantly on both interpretation and production measures" (VanPatten & Oikkenon, 1996).

PI partially matches the principles of FonF, and differs from TI with greater efficacy in fostering learner noticing and processing. It can be expected that PI may have a great effect on raising learners' accuracy in using form, considering the fact that CF and IE have not touched processing issue as much as PI has. Yet, this is in need of empirical backup.

Examined thus far, each of these three aforementioned FonF techniques has pedagogical values. In order to compare them further and find out whether there would be an alternative to CF in writing, it would be necessary to recognize the

limitations.

for FonF intervention.



Considering that each pedagogical technique has its value, in order to probe

deeper into the efficacy of application in writing training, the limitations are to be examined as well. To decide which FonF technique should be used for a specific target structure, it should be clarified first which target forms are more amenable to FonF than others. There are certain constraints when considering the target structure

First of all, there is the issue of the nature of enhanced form—"not all linguistic elements are created equal" (Han et al., 2008, P607). Some elements are more amenable to FonF than others. As DeKeyser (1998) indicated, among the many facets of language learning, morphosyntax is a complex area of concern when applying FonF. As some researchers indicated, for example, Hulstijn and De Graaff (1994), simple rules are not necessarily the best candidates for FonF, because they assume that the easier rules are precisely the ones that students can discover for themselves. DeKeyser also suggested, "...instead of giving up on more difficult rules, teachers may have to put the most emphasis on them" (1998, p. 44). Where positive evidence alone is not

sufficient for the learners, FonF comes in. He identified that there are a few issues to discuss when considering significance of linguistic variables. One of them is the degree of complexity.

On degree of complexity, different researchers brought up issues like formal/functional complexity (Krashen, 1982), underlying rules (DeKeyser, 1994), and communicative value (VanPatten, 1996), to name just a few.

Krashen (1982) highlighted the division of formal and functional complexity and categorized certain rules as easy to learn but hard to acquire. This principle can serve as a basic guideline for selecting structure to undergo FonF. The past tense would then be a candidate for FonF intervention in that it is taught in early English education and yet is not easy to master even after years of instruction.

Addressing the complexity issue from a different perspective, VanPatten (1996) introduced the concept of communicative value, which can be classified into high, medium and low, based on semantic value and structural redundancy. The semantic value that the past tense possesses varies in different contexts. In contexts where time clue is clear, the semantic value of the past tense is low and it would be structurally redundant. For instance:

"Last night, Ginger played computer games."

The time clue "last night" clearly indicates that the action is in the past.

Listeners/readers do not have to rely on the past tense to understand the time frame.

However, in contexts where there is vague or even no time clue, the past tense would be necessary for time reference, and thus structurally non-redundant. For example:

"Ginger stayed up late and thus dozed off in class this morning."

There is no time clue in this sentence. Listeners/readers are pushed to interpret the time of the action with the aid of the past tense marker. The semantic value of the past tense thus differs, depending on the context. Due to this complexity, the past tense is not easy to acquire.

The complexity can be further discussed from the following perspective. A structure might be formally simple, and yet functionally complex, as the formal simplicity and functional complexity of third person singular –s, indicated by DeKeyser (1998):

...one morpheme expresses several semantic concepts at the same time (the present tense, singular, third person), and the rule has a number of high-frequency exceptions (modals). Many inflectional morphemes (at least in inflectional as opposed to agglutinative languages) show such complexity in their form-function relationship.

Similarly, the past tense can be viewed as functionally complex, despite the fact that it appears simple. Specifically, the form of the past tense implies many concepts. "[I]t is the complexity of the rule and not its surface realization that will determine how hard it is to learn" (DeKeyser, 1998). In the learning of English the past tense involves many concepts, like the semantic value of time reference, and the relevant

linguistic knowledge that it should be the main verb in the sentence and there should be no auxiliary (modals) verbs. The regular and irregular forms of the past tense are another possible source of confusion for the students; their confusion is further complicated by the fact that the passive voice and perfect tense share the same form.

Besides constraints that influence what target is amenable to FonF, there are also constraints that determine the efficacy of FonF: the learners' prior knowledge, learner readiness (developmental readiness) and attention allocation mechanism.

The prior knowledge (or lack thereof) of the enhanced form would make it more or less salient for the learners to notice. As Han *et al.* reviewed, three main findings have been offered in this respect:

First, simple enhancement is more effective for learners with some prior knowledge of the form in question (Park 2004) than for learners without (Alanen 1995). Second, simple enhancement may induce noticing (i.e. low-level awareness, following Schmidt 1990) but not understanding (i.e. high-level awareness) in learners with little prior knowledge (Shook 1994); however, it may incite understanding as well as noticing in learners with some prior knowledge (Lee 2007). Third, compound enhancement (i.e. TE in combination with other attention-getting strategies such as CF) is more effective than simple enhancement in inducing noticing, and further processing of, the target form in both types of learners.

It has been brought forth by researchers that learners tend to notice forms that they are ready to learn. This learner readiness, or developmental readiness (Park, 2004), is similar to "internally generated input enhancement" (Han *et al.*, 2008). Han *et al.* (2008) pointed out that learners possess their own natural learning agenda and

processing mechanisms which decide what to focus on when processing input information. When exposed to externally enhanced input, learners may or may not notice the target form, or may even notice it partially, all contingent on whether or not they are developmentally ready for it (Han *et al.* 2008).

Relevant to the issue of developmental readiness, learners' attention allocation mechanism also affects whether a given structure will be further attended and processed in the Working Memory. As Park suggested, learners are more likely to notice forms that they are ready to learn and internalize, and that aiming at target structures which are too advanced for learners may not be effective. Besides,

...how focal attention is allocated is something that is negotiated by the teacher and the students and not directly observable. The intended outcome of focus on form is what Schmidt (1993b and elsewhere) calls noticing. (Long, 1998)

Noticing concerns learners' consciousness, and "questions concerning the role of consciousness in learning, however difficult to answer, are important to all" (Schmidt, 1995). Noticing and subsequent processing of target form influence the efficacy of FonF to a great extent, since learners have to go through a procedure of exposure (input), registering (intake), and analysis of the form, before they achieve the linguistic competence (uptake). To have a clear picture of what essential differences there are, if any, among the three FonF techniques mentioned above (CF, IE and PI), issues concerning attention and awareness have to be examined.

2.6 Attention and awareness in focus on form

The role of conscious and unconscious processes in second language learning is one of the most controversial issues often brought up by SLA researchers (Schmidt, 1990). Conscious processes emphasize rule comprehension, and unconscious processes emphasize natural uptake through meaningful language use for communication. Conscious and unconscious processes are "a series of a wide pendulum swinging over the past century" (Schmidt, 1995).

Schmidt identified a few dimensions of consciousness with slight differences in 1990 and 1994. In the latter version, four levels of consciousness were presented: consciousness as intention, consciousness as attention, consciousness as awareness and consciousness as control (Schmidt, 1994b). Based on Schmidt, Al-Hejin (2004) summarizes each construct:

...intention, ...refers to a deliberateness on the part of the learner to attend to the stimulus. Intention is often associated with intentional versus incidental learning. ... attention, ...basically refers to the detection of a stimulus. ... awareness,...refers to the learner's knowledge or subjective experience that he/she is detecting a stimulus, ...often associated with explicit versus implicit learning. ...control, ...refers to the extent to which the language learners output is controlled, requiring considerable mental processing effort, or spontaneous, requiring little mental processing effort. (p. 2)

Among the detailed levels within each category, attention and awareness probably speak to the current interest, since they influence how much cognitive resource is deployed to enable the transformation of input into intake and how much input would

be transformed into intake.

Awareness is further divided into three crucial levels: awareness as perception, awareness as noticing, and awareness as understanding (Schmidt, 1990). Schmidt (1990) proposed that "all perception implies mental organization and the ability to create internal representations of external events" (p. 132). Perception usually occurs first. Generally one can perceive surrounding stimuli and is not necessarily conscious of them. Noticing, on the other hand, is featured with subjective experience, and thus is private, subject to certain conditions. Understanding refers to a higher mental processing of stimuli, involving analysis, comparison, reflection, comprehension, and insight gained, which are commonly thought of as thinking, embracing problem solving capability (Schmidt, 1990). When reading, for instance, aside from the content being read, there might be the radio, the hustle and bustle from outside the window, and so on. One can decide to (1) simply perceive the buzzing in the environment but without further processing (awareness as perception), or (2) to (briefly) attend to the buzzing or the input information (awareness as noticing); or (3) to attend to the input information and analyze it drawing on existing/prior knowledge (awareness as understanding).

Among the three levels of awareness, awareness at the level of noticing and awareness at the level of understanding are of great significance to one's linguistic

development, helping learners transform input into intake. Schmidt proposed that "intake is that part of the input that the learner notices," and "noticing is the necessary and sufficient condition for converting input into intake" (Schmidt, 1990). Thus, noticing serves as a middle phase between the input, "what is available for going in," and the intake, "what goes in" (Corder, 1967:165). Input refers to stimuli such as what has been discussed, CF and enhanced texts. Intake, on the other hand, refers to the actual content/information registered. With the constraints inherent in enhancement technique that generates different degrees of noticing at work, what is presented to the learner (input) may or may not equal what is ultimately registered (intake).

The imbalance between the enhanced input and the actual intake encircles a site for the role of attention. Attention to information pending for processing involves mental energy that is compared as selection and capacity (Robinson, 1995). In a selection model, "filter theories of attention were based on pipeline models of information processing, in which information is conveyed in a fixed serial order from one storage structure to the next." Stimulus is either selected and attended, or dropped and ignored. In a capacity model, mental resource is viewed as "spotlight, with a variable focus, which can be narrowed and intensified, or broadened and dissipated." Stimulus is either at the brightest center and focally attended, or in the peripheral shadow and partially perceived. Whether selection or capacity, attention is not

limitless.

Drawing on the capacity model, Kahneman (1973) proposed that mental resource is limited and confined to one "pool." Incoming stimuli will be allocated with limited cognitive resources from one pool of cognitive resources that varies as a function of the participant's state of arousal (cited in Robinson, 1995, p. 290). Though attention pool is limited, divided attention does not necessarily lead to decrements in performance, given sufficient arousal and given that the demands of the tasks performed concurrently are not excessive.

Based on this concept of "pool," Wickens (1980, 1984, 1989) expanded the attentional resource allocation into multiple pools, rather than single one. These pools occupy different points on three intersecting dimensions of resource systems: (a) the dimension representing perceptual/cognitive activities versus response processes; (b) the dimension representing processing codes required by analog/spatial activities versus verbal linguistic activities; and (c) the dimension representing processing modalities: auditory versus visual perception and vocal versus manual response. He indicated that attentional demands of tasks and the corresponding difficulty will be magnified when tasks draw on the same pool of resources. Consequently,

Wicken's model also implies that noticing the form of the language input would be more likely in such labeled object assembly, or one-way picture description tasks than in tasks drawing simultaneously on the visual verbal encoding resource pool, such as the L2 task described in Doughty (1991). The latter required learners to read for

meaning, while simultaneously noticing the form of input made salient through highlighting (both drawing on the verbal visual encoding resource pool). Such distinctions between the attentional demands of tasks, made possible by Wicken's model, are rarely examined by second language researchers, despite the important relationship between attention, resource allocation, noticing, and intake (Robinson, 1995).

In other words, "tasks drawing simultaneously on the visual verbal encoding resource pool", such as the aforementioned FonF techniques, CF and IE, which are implemented in written context, are less likely to arouse learner noticing of the form than tasks drawing on different pools. The efficacy of CF and IE would be undermined; since only verbal visual encoding resource pool is drawn upon, the attention load will be heavy. As Bandar Al-Hejin (2004) observed, it is more difficult to perform two tasks if both require controlled processing (high attention). This adds to further limitations of IE and CF. Due to the processing constraints, "forms may be noticed perceptually, but not linguistically" (Leeman, Arteagoitia, Fridman, & Doughty, 1995, p. 219). As Han et al. (2008) noted, "Enhanced forms may attract attention but may fall short of further processing" (p. 602). VanPatten (2002) also observed, "a learner could notice a form but not process it." That is to say, enhanced forms may also fall short of arousal of awareness at noticing level, inducing learners to process the target form at the perceptual level, but not at the linguistic level. In the worst scenario, learners may not be even able to discern the intended content from the text written in target language, let alone linguistic information. In short, input cannot be transformed into intake without noticing (Schmidt, 1990), and subsequent processing can only be activated after input is transformed into intake. PI, on the other hand, which involves oral/written input as evidenced in the referential and affective structured activities, can avoid such problem, providing learners with input from different modalities, thereby reducing cognitive processing load.

With the aforementioned review in mind, these three techniques have pedagogical values in writing training, in that writing requires formal accuracy. With language use at the center of overriding focus in class, occasional and timely shift of attention to form for the purpose of increasing learners' competence in accurate use of form may serve as a starting point when considering alternative ways to error treatment.

A rough comparison among the three techniques will be necessary before forming the research questions. The issues addressed in CF and IE are largely tackled with caution in PI. For directness issue (see page 8), PI applies explicit instruction in advance, and oral plus written activities afterwards. For focused target structure, PI emphasizes the importance of "one thing at a time," which caters to people's universal processing predilection (i.e., processing form *before* meaning; processing meaning *after* meaning is clarified). Prior knowledge is activated from the beginning and overall comprehension has to be kept in mind and ensured throughout the instruction. The explicit reactivation of prior knowledge, demonstration of habitual incorrect

processing strategy, and subsequent structured activities facilitate considerable learner noticing, and more importantly, processing. Last but not least, due to PI's instructional nature: oral lesson, preaching, demonstration, structured activities, learners' different attentional pools are activated. What will be lessened is the processing load on decoding language and getting the information encoded. Both moves are from sight-reading (single attentional pool) as in IE and CF, and thus processing load in reactive FonF is much heavier.

To examine whether there will be alternatives to CF that achieve equal or better efficacy in writing, therefore, the research interest lies in the comparison of different FonF techniques in terms of efficacy, and the possible insight of the significant roles that noticing and processing play in dealing with writing instruction. The research questions are thus as follows:

- 1. Do the techniques commonly used in the FonF framework (i.e., CF, IE & PI) serve as effective consciousness-raising activities in directing high-school students' attention to the English past tense in an immediate writing practice?
- 2. If so, is there any significant difference among the three FonF techniques (if entirely so), or between the FonF techniques at focus (if partially so)?
- 3. Can the observed effects sustain over time?

CHAPTER THREE

METHODOLOGY

There are seven sections in this chapter: (1) target structure, (2) setting and participants, (3) design and stimuli, (4) procedures and instruments, (5) operationalizations and (6) correction guidelines. The target structure will include the chosen form, and the rationale behind the choice. The setting will present the teaching environment where this study took place. A brief description will be given on the information of the high school, the educational policy regulating English instruction, and general background information about the learners. The participants are the learners who received the intervention from this study. The estimated number of the learners, the number of intact classes to which learners belong, proficiency background, grouping strategy, and relevant information about the learners will be provided in this section. The design of the study will present the sequence of steps which were taken. Procedures and instruments will specify the overall scaffold of the study, and detailed depiction based on the design. Operationalizations will include the grouping, and exact conduction of the treatments relevant to each group. Finally, the correction guidelines are the referential criterion according to which the assessment and evaluation of the learners' performance will be carried out.

3.1 Target structure

The past tense was targeted in the current study for a few reasons. The past tense is widely applied in picture-story writing, a major trend for English writing test in GST. Owing to the nature of a story, the description of events usually takes the form of the past tense. Instead of adopting the past tense, however, learners often apply the present tense, ignoring time reference in composing stories. More often than not, they apply the present tense to narrate cases that happened in the past.

Another reason for selecting the past tense was its complex underlying regulations, such as the irregular form, or the distance (DeKeyser, 1998) between the verb and the time clue (or lack thereof). For a target form which is not simple, positive evidence alone is insufficient for building learners' competence. The complexity of the past tense thus requires treatments in FonF, a concept whose manifested treatments are for form that is not straightforward to the learners.

In addition, FonF is a pedagogical treatment that can be embedded (and thus serve as intervention) in regular English courses. It aims at remodeling learners' existing knowledge which is yet to be completed. The target structure for FonF intervention thus should not be brand new to learners. Due to the fact that the past tense is taught quite early in English learning, learners already have partial knowledge of it.

Weighing all these conditions, the English the past tense was chosen as the target structure.

3.2 Setting and participants

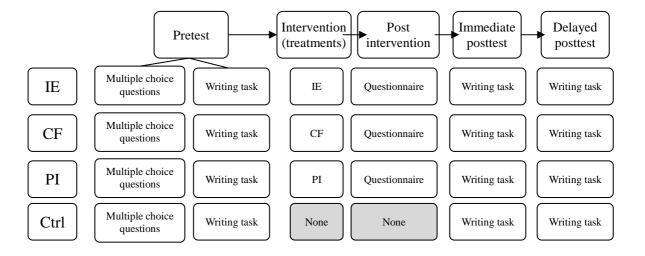
This study was conducted in three classes from First Manka Senior High School. Students beginning the first year in First Manka Senior High School were in normal distribution, and were divided into sixteen classes averaging forty to forty-two in each, according to their academic performance in junior high school. They would not be separated into liberal-arts oriented and science-engineering oriented classes until the second year. Each week, the freshmen had six periods of English class in total, with four required, one elective, and one additional course, which was supplementary in essence, offered at the last period of a day, to enhance what students learn in their regular programs.

One hundred and sixty first-grade students from four intact classes participated in this study, randomly distributed into four groups: the Control group, the IE group, the CF group, and the PI group. The students were generally between 15 to 16 years old. They had received English courses since grade three. The total years for learning English amounted to seven years.

3.3 Design and stimuli

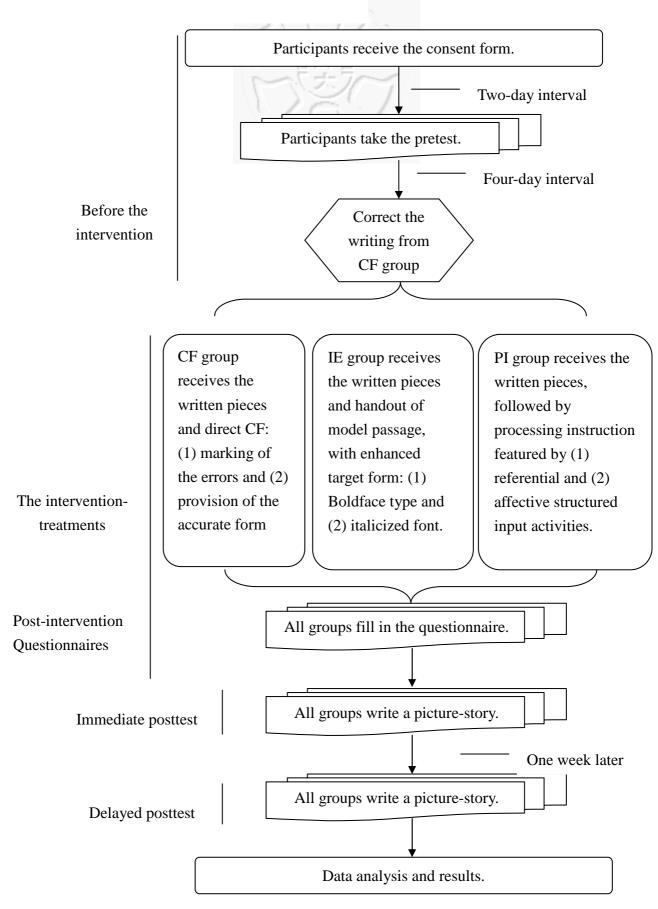
This study adopted a pretest-intervention-post-intervention-immediate posttest-delayed posttest structure, as shown in Figure 1.

Figure 1The procedure of the conduction of the current study



3.4 Procedures and instruments

The study was conducted in the second semester of the participants' first year in senior high school (Spring, 2011). The whole experimental procedure is displayed in Figure 2. Before the intervention, students received a consent form to sign. Two days later, all groups took the pretest. The writing pieces in the pretest were collected and those from the CF group were corrected.



The treatments were executed on three experimental groups as the intervention phase began in four days. After the intervention, the post-intervention followed, which was in turn followed by the immediate posttest. One to two weeks later, they received the delayed posttest. All the results of each test were calculated and entered into SPSS upon collection and completion.

Along with the software for statistical analysis, SPSS, other instruments which were used included: consent forms, the pretest paper of multiple choice questions, the pretest handout for writing task, the handouts of a model passage for IE group, with the target structure typographically enhanced for saliency, the handouts of processing instruction, the slides, and two handouts for writing task in the posttest and delayed posttest.

3.5 Operationalizations

All four groups received the pretest. The pretest consisted of two sections. In the first section, learners were tested with some multiple choice questions, and in the other, there was a written task based on a picture-story, resembling the General Scholastic writing test. The purpose of the pretests was to facilitate the conduction of FonF treatments. The scores of multiple choice questions served as a criterion to filter out ideal participants, and the writing task served as a baseline for comparison with

subsequent writing tasks in posttest and delayed posttest.

To filter out ideal participants, the learners were put to test in terms of their command in the past tense. Lest the time clue in the questions might possess priming effect, in most questions, time reference was eliminated, as the following shows:

In addition to the past tense, there were other questions that tested different areas of linguistic knowledge in order to eliminate the possibility that the learners got to catch on that it was for the past tense that they were being tested, as the following shows:

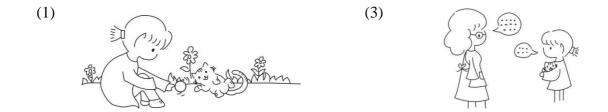
Prospective participants' performance on this task allowed the researcher to exclude those participants whose proficiency was not ideal for the FonF treatment. Participants of either low proficiency level or high proficiency level were filtered out. The criterion was set by the correction guideline in General Scholastic Test (GST). According to the guideline, proficiency in writing could be divided into five levels:

superior, good, acceptable, non-ideal, and inferior. Participants belonging to superior and inferior would not be accounted for in data analysis. The accuracy ratio for target participants, therefore, was set between 10% and 90%.

After the pretest, it was collected back and scored (details of which are shown in scoring policy below), yielding reference for screening participants. Nevertheless, those participants who were screened out continued the program along with their counterparts. What was screened out was confined to the data.

Screening out the ideal participants, the pretest session continued into the writing task. The written task in the pretest was meant to elicit the learners' actual competence in application of the past tense prior to the treatment, and therefore could serve as the baseline for subsequent comparison with posttest and delayed posttest. In this writing task, the learners were required to write a story with 120 words or more, based on a series of pictures. The pictures for writing task were adopted from the materials used in GST, as the following shows:

Ex. (Adapted from GST, 2007)





The pictures show a story in which a great amount of descriptions using past tense will be required. For more details of multiple choice questions, please refer to Appendices A and F.

The writing pieces were collected back and scored, with accuracy percentage calculated (details in *scoring policy* below) for further analysis in SPSS.

3.5.1 Intervention

Having finished the pretest session, this study proceeded into the intervention phase, which involved three different treatments on three groups, corrective feedback, input enhancement and processing instruction.

IE (*input enhancement*): After the pretest, each participant in the IE group was given a handout of a short model passage with the target structure (the past tense) enhanced for saliency by using bold font and italicizing:

Ex. The smell of grilled chicken reached Sarah's nostrils as she entered the house. It was almost supper time and Sarah's mother greeted her from the kitchen wearing an apron. Sarah approached her mother and

ask*ed* her timidly if she *could* have a cat. (Excerpt, for comprehensive content, please refer to appendix G)

After the learners read the passage, their comprehension was briefly checked. If there was anything that the learners did not understand, clarification of the meaning was carried out, using English. This clarification of meaning was confined to the content of the passage, rather than the linguistic knowledge or the past tense. This was to ensure that the learners could have more attentional/processing resources available for the form. The handout was then collected back, before the post intervention was conducted.

CF (corrective feedback): The learners' writing pieces in the pretest were provided with direct CF. The misused target structure (the past tense) was underlined, and the correct form was written right above/below the error:

Ex. The smell of grilled chicken reached Sarah's nostrils as she enter the house. It was almost supper time and Sarah's mother greet her from the kitchen.

The writing pieces were then handed back to the learners in the intervention session. After reading their original work with CF, the learners were allowed a brief session in which they could query the teacher about the writing. Finally, their original pieces were collected before the post intervention was conducted.

PI (processing instruction): During the treatment, a model passage was given, with instructions and activities focused on communicative purposes.

Ex. Gary was an intern in HSNU 8-9 years ago. Now he is a formal teacher in First MankaSenior High (HJSH). Find out what he did in HSNU and what he does in HJSH.

The learners' attention was shortly redirected to the target form. When instructing the target form, there were slides for teaching the past tense, with specifically designed handouts whose content corresponded to that of the slides, thus convenient for learners' quick visual reference:

Ex.

1. Past tense

It is used to refer to events that happened in the past.

- ❖ The past means any time before the moment ... "NOW."
- "Now" is not an hour, not a minute, not a second. "Now" is fleeting.

The instruction of the target form was aligned with the principles of PI, with three procedural steps. The first was demonstrating the explicit information of the target form:

Ex.

2. Past tense is used...

...when the action is before the moment you utter:

Mom: How is your homework going?

Johnny: I just finished it.

The second was informing the learners of the non-optimal processing strategy.

Ex.

3. Students' non-optimal processing strategy

- Applying simple present tense to every verb.
- Reason 1: In Chinese, there is no such concept of past tense for verbs.
- Reason 2:When writing, students seek one-to-one correspondence between Chinese verb and English verb...and thus ignore the past tense.

The final step included two kinds of structured input activities, referential and affective, which were designed to push the learners away from less optimal processing strategies, toward the optimal one. In referential structured input activities, a text was read to the students. After each sentence followed a comprehensive question, to which the students were encouraged to voice out their answers. The correct answer was not given immediately, so as to allow students time to process the target form, under the uncertain circumstances created by different answers.

Ex.

Gary was an intern in HSNU 8-9 years ago. Now he is a formal

teacher in First MankaSenior High (HJSH). Find out what he did in HSNU and what he does in HJSH.

- 1. As an intern teacher, Gary used to get up at 5:30, but he gets up at 7:30 as a formal teacher.
 - Question: Was Gary an early bird in HSNU?
- 2. And, he always rides his scooter to school. Question: Does Gary take a bus to school?
- 3. Due to his heavy obligation as a formal teacher, he buys his breakfast on his way to school, just to save him some time for other school obligations.

Question: Was Gary an early bird in HSNU? What's Gary's strategy to buy him more time?

(For complete details of the text, please refer to appendix H)

Following the referential structured input activities, the affective structured input activities allowed students to more openly express themselves, using the target structure:

Ex.

1. Is your life in senior high school different from life in junior high? Write down your own comparison, and interview 2~3 classmates about theirs. (For complete details of the SI, please refer to appendix H)

After the affective structured input activities were completed, the treatment phase, in which there was the processing instruction, was completed. After the instruction, the handouts were collected before the post intervention was conducted.

3.5.2 Post intervention

In the post intervention immediately following the treatments, there were questionnaires for each group, with questions specifically designed to elicit responses that reflected students' awareness. The exact wording varies for different groups. However, all the questions catered to different levels of awareness: perception, noticing and understanding. The first half of the questions catered to low-level awareness (awareness at perception/noticing level) and the latter half catered to high-level awareness (awareness at understanding level):

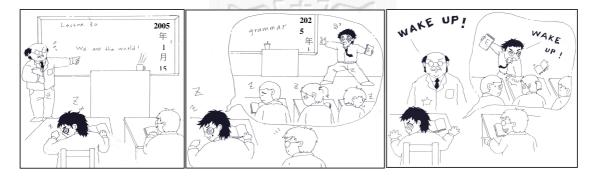
Ex.

- 1. What did you see in this handout? Please phrase in a general term.
- 2. Do you think there was a pattern or rule behind it?
- 3. Can you try to describe it?(For more details, please refer to appendix C, D & E)

The outcome of the questionnaires would serve as a reference for gaining insight into the roles that low-level awareness and high-level awareness played in the transformation of input into intake on the part of the learners, and thus the efficacy of each treatment.

3.5.3 Immediate Posttest

After the intervention, there was the immediate posttest, which consisted of one writing task based on pictures:



(Appendix F)

The immediate posttest was for evaluating the efficacy of different treatments and to see whether the efficacy achieved significance. All groups were given handouts with these pictures. The participants were assigned around 35 minutes for the posttest writing. After they finished, their posttest writings were collected for correction and analysis.

3.5.4 Delayed posttest

In an interval of one week, all groups received a delayed posttest. It was to examine whether the efficacy, if any, can be sustained. The posttest consisted of one writing task based on pictures:



(Appendix F).

The delayed posttest was planned to be conducted one to two weeks after the posttest. The actual date was not revealed to the learners lest they would expect the conduction and thus mentally rehearse. The learners were given 35 minutes to write the story. After they finished, their delayed posttest writings were collected for correction and analysis.

3.6 Correction guidelines

Correction guidelines include two sections: scoring policy and statistical analysis.

3.6.1 Scoring policy

The scoring partially followed those of VanPatten and Cadierno (1993a, 1993b). The total number of target forms and accurate use of target forms in one piece of writing were counted and scored respectively. The multiple choice test was scored by granting one point for each question concerning the target structure if the answer was correct. No point was given if the answer was incorrect. Questions with other structures were not scored, whether correct or incorrect. This was because the purpose for these questions was to decrease the possibility that learners would find out that it was the past tense they were to be tested. In the picture-story written test, each target structure in obligatory context where the past tense was required would be worth a potential two-point within a sentence, including both independent and dependent clauses, and sentences connected by conjunctions.

- (1) Liz <u>rode</u> back home fast to watch cartoon, <u>but she didn't make</u> it in time. (Two obligatory contexts, with one connected by the conjunction "but," multiplying 2 points each, yields 4 points in total.)
- (2) Liz <u>rode</u> back home fast to watch the cartoon <u>which started</u> at five o'clock. (Two obligatory contexts, with one dependent adjective clause connected by the relative pronoun "which," multiplying 2 points each, yields 4 points in total)

Considering that the aim of this study is on learners' *use* of the past tense, if learners could show that, after they processed the lexical meaning of a verb, they could still remember to process its form, that is to say, they learned to apply the past tense when writing, then the efficacy of the treatment should be accounted for. With

this in mind, one point was given to partial correctness, as in the following situations.

(3) Liz <u>rode</u> back home fast to <u>watched</u> cartoon. (Partially correct within a sentence, 1 point)

The same principle in scoring was also adopted when learners erroneously apply the regular in place of the irregular form:

(4) Liz <u>rided</u> all the way home to watch cartoon. (1 point)

If the learners failed to apply the past tense to the main verb, but remembered to apply it to subsequent verbs in a sentence, one point was given as well, since this half-way recall showed that the learners did not entirely fail to process the form. For instance,

(5) Liz <u>ride</u> all the way home to <u>watched</u> cartoon. (1 point)

If learners failed to apply the past tense in the obligatory context throughout one sentence, no point was given:

(6) Liz <u>ride</u> all the way home to <u>watch</u> cartoon. (0 point)

There might be cases where learners failed to apply the past tense but remembered to supply the time reference. For example,

(7) Liz <u>ride</u> all the way home to <u>watch</u> cartoon <u>yesterday</u>. (0 point)

Considering the aim of the current study, which is to improve learners' competence in form, no point was given to cases like the above example.

For each student, the points gained were divided by the sum of the points from all accurate use of the past tense to produce the accuracy percentage. Each learner's accuracy percentage was analyzed using SPSS.

3.6.2 Statistical analysis

With research questions in focus, which include overall efficacy of FonF pedagogical treatments on learners' performance, relative efficacy between each treatment, and the long term efficacy for each, the statistical testing methods chosen are able to probe the following issues. The first is the interaction between the factor of FonF treatments (between-subject variables) and the factor of learner performance (within-subject variables). This initial examination on the interaction between the two factors, if reaching significance, means that the FonF treatments indeed influence the learner performance. Following the examination on interactions between two major factors (which contain between- and within-subject variables), the next will be on the main effects of the two variables. The main effects of the between-subject variables

can reveal the relative extent of efficacy of the three treatments, resulting from mutual comparison on the basis of different tests (pretest, posttest and delayed posttest). Finally, the main effects of the within-subject variables can indicate the difference of learners' performance in the pretest, posttest and delayed posttest.

To fit into this general route of statistical analysis, the details of the factors and variables should be defined. There were two factors, the FonF treatments and the tests, which include IE, CF, PI and Control, and pretests, posttest, and delayed posttest, respectively. Under the factor of FonF treatments, there were four between-subject variables (IE, CF, PI and Control), in which each observed value came from different participants. Under the factor of tests, there were four within-subject variables (2 pretests, posttest and delayed posttest), in which each observed value came from the same participants. With two factors, one independent (the FonF treatments) and one dependent (tests), and four variables in each, what was considered appropriate for this study was a two way repeated-measures ANOVA in mixed design, for research question 1, one way ANOVA, with post-hoc analysis using Sheffe, for research question 2, and finally, one-way repeated-measures ANOVA, for research question 3.

CHAPTER FOUR

RESULTS

This chapter presents the results of the study. As stated in the previous chapter, those whose accuracy percentage lies above 90% and below 10% are considered outliers (Appendix I), and were thus excluded. The size of the participants shrunk: IE=35, CF=39, PI=34, and Ctrl=34. These participants' performances in using English past tense in subsequent writing were analyzed in terms of accuracy ratio. The descriptive statistics are are shown in Table 1.

Table 1
General descriptive statistics for the participants' scores in each test (%)

		Mean			SD					N		
Tests	Con	ΙE	CF	PI	Con	ΙE	CF	PI	Con	ΙE	CF	PI
P-M	57.84	67.40	58.82	60.43	15.39	17.13	25.83	22.65	37	43	42	43
P-W	63.42	67.63	66.47	65.82	17.72	17.62	25.87	17.25	34	35	39	34
ΙP				92.75					34	35	39	34
IF	03.23	00.94	19.62	92.13	17.33	24.70	10.40	4.43	34	33	39	34
DP	66.19	62.69	78.79	86.43	16.93	28.05	10.46	7.00	34	35	39	34

Note. PM = pretest of multiple choice questions; PW = pretest of picture-story writing; IP = the immediate posttest; DP = the delayed posttest.

In this study, there are three research questions, which address the following three aspects of FonF: (1) whether FonF as a whole is effective in enhancing the participants' ability in using the English past tense; (2) the relative contribution of

each FonF pedagogical activity (treatment); and (3) whether the efficacy is able to persist over time. Catering to these questions, the experimental design involved two variables. One is the independent variable, the *treatments*, which included four levels (groupings): input enhancement (IE), corrective feedback (CF), processing instruction (PI) and the non-treatment control group (Ctrl). The other one is the dependent variable, the *tests*, which also included four levels: two pretests, one immediate posttest and one delayed posttest. Two-way repeated measures ANOVA was chosen as ideal for examining the research questions.

The sequence of examination was as follows: 1 examination and confirmation of the interaction between the two variables, for the purpose of attributing the effect to the variables at focus; 2 examinations of the main effects. When the main effects were examined and compared along the variable *tests*, a comparison between the experimental groups against the control group both on the pretest of writing and the immediate posttest can serve to address the first research question, which concerns the overall efficacy of the FonF as a whole against the control group, and partially address the second question, which concerns the relative contribution of each FonF treatment. The second research question further requires one way ANOVA to verify the significance and the relative distribution. If significance was reached, post-hoc analysis was to be performed, using Sheffe. On the other hand, when the main effects

were examined along the variable *treatments*, a comparison between the immediate posttest and the delayed posttest on three experimental groups can serve to address the last question. Detailed sequence is presented as follows.

Attribution of the effects

Two-way repeated measures ANOVA in mixed design was first conducted with the examination of the within-subject effects, for the purpose of examining whether interaction between the two variables did exist. The result is shown in Table 2.

Table 2
Tests of within-subjects effects—the extent to which tests and treatments influence the overall changes in participants' performance

Source	Type III Sum of Squares	df	Mean Square	F	p
Test	18293.58	3	6097.86	1.79	.15
Test * Treatments	17849.14	9	1983.24	7.23	.00

From Table 2, it can be seen that the effect of *tests* did not reach significance (*p* = .15). The variable *test* did not affect significantly the changes in participants' performance. This lack of significant effect from the variable *tests* shows that although test-taking seemed to provide the participants with repetitive opportunities to practice writing, it accounted little for the participants' improvement.

While the variable test did not have much effect, the interaction between test and

the variable *treatments* reached significance (p = .00). In other words, when test-taking and the treatments were put together, there were effects engendered. The participants received the treatments, and put into actual production. This combination of pedagogical activities and writings influenced the participants' performances.

The main effects

Having confirmed the interaction between the two variables and thus the attribution of the effects, which were from within the variables at focus, the subsequent examinations usher the answers to the research questions of this study.

Research question 1: Do the techniques commonly used in the FonF framework (i.e., CF, IE & PI) serve as effective consciousness-raising activities in directing high-school students' attention to the English past tense in an immediate writing practice?

The next examination was done using one-way independent ANOVA. The result is selectively shown in Table 3 below.

From Table 3, it is obvious that in the two pretests, there was no significant difference among all the participants' performances across the four groups (p = .24 & .88 in the *pretest of multiple choice questions* and *story writing*, respectively). Since

there was no significant difference found among the participants within the four groups, it can be suggested that the participants' competence before receiving the treatments could be viewed as equal.

Table 3

ANOVA for means of performance from the four groups in the four tests

Source	Sum of Squares	df	F	Mean Square	p	
		Between	orouns			
		Detween	groups			
P-M	1915.55	3	1.44	638.52	.24	
P-W	266.63	3	.22	88.88	.88	
IP	15540.94	3	19.66	5180.31	.00	
DP	12142.87	3	12.72	4047.62	.00	
Within groups						
P-M	56438.34	127	3.27	444.40	.48	
P-W	52004.18	13	2.76	409.48	.92	
IP	33463.80	13	24.76	263.49	.84	
DP	40418.24	127	11.57	318.25	.65	

Note. PM = pretest of multiple choice questions; PW = pretest of picture-story writing; IP = the immediate posttest; DP = the delayed posttest.

For the immediate posttest, however, the differences among the four groups reached significance (p = .00), suggesting that across the four groups, the participants'

performances after receiving the treatments did vary, and the variation was of a significant extent.

In analogy, for the delayed posttest, the differences across the four groups reached significance as well, suggesting that the variation in participants' performances triggered by the treatments significantly persisted.

With significance of between-group differences reached, a comparison between the means of each group could show whether the experimental groups performed better than the control group, and a following post-hoc analysis could show the relative contribution from each experimental group.

From Table 1, the general descriptive statistics, a quick comparison among the four means from the four groups in the immediate posttest shows that all the three experimental groups outperformed the control group (PI: 92.75, CF: 79.82, IE: 66.94, Ctrl: 65.25).

Thus far, the answer to the first research question can be drawn. Before the treatments, there was no significant difference among the four groups, including the control group. After the treatments, there was significance in the differences among the four groups. In addition, all the three experimental groups outperformed the control group. In conclusion, for the first research question, the answer was affirmative. The techniques commonly used in the FonF framework (CF, IE & PI)

were effective in directing high-school students' attention to the English past tense in an immediate writing practice. Of particular notice here is that, though IE outperformed the control group, the difference between IE and the Control was minor. Whether IE alone did outperform the Control significantly or not was in need of further examination, which would be conducted in post-hoc analysis in the second research question.

The research interest, at this point, is directed to the next question.

Research question 2: If FonF does serve as effective consciousness-raising activities in directing high-school students' attention to the English past tense, is there any significant difference among the three FonF techniques?

Since the ANOVA revealed that there was significance across the four groups both in the immediate posttest and the delayed posttest, the differences in means of the three experimental groups can provide a rough picture of the relative contribution from each group, which is in need of further examination of post-hoc analysis, using Scheffe.

From Table 1, the general descriptive statistics, a quick comparison among the three means from the three experimental groups in the immediate posttest shows that PI outperformed CF, which in turn outperformed IE (PI: 92.75 > CF: 79.82 > IE: 66.94). With this rough picture presented, post-hoc analysis was performed using

Scheffe. The result is shown in Table 4.

Table 4
Multiple comparisons (post-hoc analysis using Scheffe) among the means of the three experimental groups in the immediate posttest

Multiple Comparisons

					95% Confidence Interval	
(I)	(J)	Mean				
Group	Group	Difference (I-J)	Std. Error	p	Lower Bound	Upper Bound
IE	CF	-12.88*	3.77	.01	-23.58	-2.19
	PI	-25.82*	3.89	.00	-36.83	-14.81
	Con	1.69	4.25	.98	-10.37	13.74
CF	ΙE	12.88*	3.77	.01	2.19	23.58
	PI	-12.94*	3.89	.01	-23.95	-1.92
	Con	14.57*	4.25	.01	2.52	26.63
PI	ΙΕ	25.82*	3.89	.00	14.81	36.83
	CF	12.94*	3.89	.01	1.92	23.95
	Con	27.51*	4.35	.00	15.17	39.85
Con	ΙΕ	-1.69	4.25	.98	-13.74	10.37
	CF	-14.57 [*]	4.25	.01	-26.63	-2.52
	PI	-27.51 [*]	4.35	.00	-39.85	-15.17

^{*}p < .05.

Table 4 contains the result of comparisons within the immediate posttest. Four comparisons were conducted. Each group was compared with the other three groups. The differences between means of each pair of groups are presented, along with the p value (Sig.), which indicates whether the differences reached significance.

As revealed from the mean difference, the subtraction of the means indicated the overall superiority of the Experimental groups over the Control group (IE – Control = 1.69; CF – Control = 14.57; PI – Control = 27.51), which reaffirmed the result of the previous ANOVA examination. While all three FonF pedagogical treatments were facilitative of participants' command on past tense, not all treatments managed to achieve significant efficacy (the p value of IE = .98; CF = .01; PI = .00). The average percentage of the participants' performance in IE is slightly higher than that in the Control group, but the difference did not reach significance (p = .98). Aside from IE, both the other two experimental groups, CF and PI, reached significance in the comparison with the Control group (CF = .01; PI = .00).

Resonating to the previous research question, while FonF pedagogical treatments as a whole did improve the learners' performance, resulting into significant differences among the means of all four groups after the treatment session, the improvement of the group IE alone was limited in scope. Though IE outperformed the Control, the extent was not significant.

To address the second research question, the comparison between each pair of experimental groups was conducted next. For the pedagogical treatment PI, the mean of participants' performance was significantly higher than those from both the other two treatments, CF and IE (PI – CF = 12.94, p = .01; PI – IE = 25.82, p = .00). The mean of pedagogical treatment CF was in turn significantly higher than that of IE (CF – IE =12.88, p = .01). To conclude, the efficacy of PI was higher than that of CF, which in turn was higher than IE.

The answer to the second research question is affirmative. There were significant differences among the three FonF techniques, with PI being the most effective, CF next, and IE the last.

With relative contribution of the three FonF activities unveiled, the final research interest considers whether the efficacy of each treatment could persist.

Research question 3: Can the observed effects of the pedagogical activities in FonF sustain over time?

To answer this question, the examination of the main effects was then placed on each experimental group for the comparison between the immediate and the delayed posttest, which required one-way repeated-measures ANOVA to examine. The results are shown in Table 5.

Table 5

One-way repeated measures ANOVA – pairwise comparison – efficacy of the immediate posttest and the delayed posttest against the pretest

	(I) Test	(J) Test	Mean Difference (I-J)	Std. Error	p
	(1) 1000	(6) 1650	1120m 2 morenee (1 t)	244. 21101	P
ΙE	IP	PW	69	5.06	.89
		DP	4.24	3.32	.21
	DP	PW	-4.94	5.73	.39
		IP	-4.24	3.32	.21
CF	IP	PW	13.35*	4.16	.00
		DP	1.03	2.09	.63
	DP	PW	12.32*	3.71	.00
		IP	-1.03	2.09	.63
PI	IP	PW	26.94*	3.20	.00
		DP	6.32*	1.39	.00
	DP	PW	20.62*	3.10	.00
		IP	-6.32*	1.39	.00
Con	IP	PW	723	6.43	.91
		DP	-2.90	2.25	.21
	DP	PW	2.19	5.99	.72
		IP	2.90	2.25	.21

Note. PW = pretest of picture-story writing; IP = the immediate posttest; DP = the delayed posttest.

In IE, the mean in the immediate posttest was not higher than that of the pretest

(writing task), nor was the difference significant (mean difference = -.69; p = .89). The pattern remained identical in the comparison between the delayed posttest and the pretest (mean difference = -4.94; p = .39). In short, the pedagogical treatment IE in the current study did not help much in enhancing participants' ability in using the past tense. The participants' performance after the treatment did not improve.

The lack of improvement in IE in its immediate posttest against its pretest seems, at a first glance, to be contradictory to the finding in the first research question, in which experimental groups as a whole, including IE, outperformed the Control group in the immediate posttest. Yet, for the Control group, its performance in the immediate post test did not outperform the pretest, either. The extent was greater than that in the IE group (IE: immediate posttest – pretest = -.69; Ctrl: immediate posttest – pretest =-.723). In other words, both the IE and the Control deteriorated in the performances, and due to the reason that the Control deteriorated greater than IE, IE still outperformed the Control in the immediate posttest.

In CF, the participants' ability in using the past tense improved, in both the immediate posttest and the delayed posttest. The mean difference between the immediate posttest and the pretest reached significance (mean difference= 13.35; p = .00), suggesting that participants' performance in the immediate posttest did improve, compared with their previous performance in the pretest. The mean

difference between the delayed posttest and the pretest reached significance as well (mean difference = 12.32, p = .00). From this result, the pedagogical treatment CF was shown to be effective in enhancing participants' ability in using the past tense. The mean in the delayed posttest, though slightly lower than that in the immediate posttest, was still significant when compared with that in the pretest, and thus the efficacy persisted.

In PI, the scenario was similar. The participants' ability in using the past tense improved, in both the immediate posttest and the delayed posttest. The mean difference between the immediate posttest and the pretest reached significance (mean difference= 26.94; p=.00), suggesting that participants' performance in the immediate posttest did improve, compared with their previous performance in the pretest. The mean difference between the delayed posttest and the pretest reached significance as well (mean difference = 20.62, p=.00). From this result, the pedagogical treatment PI was shown to be effective in enhancing participants' ability in using the past tense. The mean in the delayed posttest, though slightly lower than that in the immediate posttest, was still significant when compared with that in the pretest, and thus the efficacy persisted.

For these three treatments, PI and CF were both effective, and the efficacy was sustained. IE was not significantly effective from the beginning

To conclude the findings for the current study, three research questions were addressed to a different extent. The first research question was addressed. FonF pedagogical treatments were generally capable of raising students' ability in using the past tense. For the second research question, it was addressed as well. In the immediate posttest, the efficacy of PI was higher than CF, which in turn was higher than IE. The differences between each pair all reached significance. For the final research question, PI and CF were both significantly effective in the immediate posttest, and the efficacy could persist into the delayed posttest with significance. IE, however, did not show signs of efficacy, let alone significance.

CHAPTER FIVE

DISCUSSION AND CONCLUSION

This chapter presents a discussion of the finding, the implications derived, the limitations of the current study, and possible fields for future research.

5.1 Discussion

In an attempt to reflect upon the current study, what is to be examined includes the theoretical framework, followed by pedagogical implications derived, and an overview of the methodological conduction and data collection.

5.1.1 The theoretical framework

Despite the general result affirming the value of FonF, there exist minor gaps among the different pedagogical activities and between the short-term and long-term efficacy. While common principles of FonF may be of value to the students' learning of target forms, different activities are featured by different factors that might cause the varied efficacy. Before detailed discussion, a reflection on FonF is desirable.

FonF and the aids in writing instruction

FonF is shown by the current study as effective in solidifying learners' ability in using certain English language form (past tense) in writing. As Long (1998) suggested, "a crucial site for language development is... between learners and certain types of written texts" (p. 22). In line with this notion, the result of the first research question showed that FonF was able to raise learners' consciousness, helping them notice the target form, and further enable them to use the target form correctly, to a significant extent. In writing instruction, thus, it is advisable to adopt the framework of FonF, which involved a few essential principles and theoretical insights that cannot be overlooked.

Widely and extensively portrayed as FonF has been, this notion encapsulates the shift of learners' attention triggered by the instructors, from meaning-driven context to single language form, for the purpose of enabling the learners to learn a specific target form.

Having said thus, the depiction entails setting of meaningful context, instructors' attention maneuvering techniques (external and observable behavior), and the learner awareness (shift of attention), where issues concerning one's consciousness in learning, such as noticing and processing, take place.

Among these, the first to be pinpointed is the meaningful context, which serves as

a premise for FonF to differentiate from *focus on forms*. This premise was established in the current study to a great extent, in that writing in essence is meaning-driven, as previously suggested. Though learners might from time to time paused to ponder over suitable usage of language forms, most mental energy was concentrated on the composition of the content. Fundamentally, writing itself is an arena for FonF, on which various FonF activities can be conducted.

In the current study, all the three FonF pedagogical activities adopted provided intervention initiated by the teacher, an external, observable behavior, for the purpose of attention-shifting. The IE provided handouts with typographically enhanced target form, the CF the feedback, and the PI the structured input.

External observable behaviors from the instructors consist of the former part of "shift of attention." The other part of it takes place within the learners' internal mental state, manifesting as noticing, which is not directly observable. Though subsumed within the process of "shift of attention," these two parts might not entirely correspond with each other. What is offered by the instructors might not completely result in what is received by the students. It requires empirical study to testify whether learners actually noticed, which, in the current study, was done through the use of questionnaires. The result is discussed in the next section.

Mediating the two parts is the instructors' maneuvering of the learners' attention.

The process is interactive in nature. This interactive nature of FonF contributes to the efficacy to a great extent. By interaction, learners' attention is drawn to "mismatches between input and output...and can induce noticing of the kinds of forms for which a pure diet of comprehensible input will not suffice" (Long, 1998). The notion that focus on meaning is insufficient for enabling learner noticing of the target form captures the essence of a view elaborated by DeKeyser (1998). Considering what language forms are "most amenable to FonF," he brought out a few linguistic variables, one of which concerned the gap between L1 and L2. If one target form in L2 does not find a counterpart in L1, and is thus itself a form not straightforward for L2 learners to master, "then a rather strong variant of FonF...will be required" (p. 43). In the current study, the target form was the English past tense, a form that is not presented in learners' L1, and this partially accounts for the rightful place and efficacy of FonF.

Along with the insufficiency of positive evidence (focus on meaning), traditional formal instruction (focus on forms) has its limitations as well. It fails to provide meaningful context in which memory of the target form can be facilitated. As Ander (2000) pointed out,

"...people tend to display better memories if they elaborate the material at study...semantic elaborations were particularly beneficial. Such semantic elaborations should facilitate the process of inference...we expect elaborative processing to lead to both an increased recall of what was studied and an increase in the number of

inferences recalled" (p218).

Semantic elaborations, to a certain extent, are typical of meaning-enriched context, which offers an ideal context for further process of meaning to match the form. This is what focus on forms lack and what FonF offers to present.

Thus far, the examinations of the two stances (focus on meaning and focus on forms) yield the insufficiency, and two issues in consciousness surface: noticing and processing. Immersed in a context where meaning is entirely at focus, learners might not have ample opportunities to notice specific language form. Similarly, in a course filled with mechanical drill without meaningful context, processing, defined by Wong (2005) as essentially the form-meaning connections, could hardly take place.

From within the two phases preceding and following the shift of attention (the instructors' maneuvering and the students' learning) arises one account which shows two issues in consciousness: noticing and processing. FonF features these two aspects, which are not completely presented in a pure dose of each of the above teaching stance (focus on meaning and focus on forms). There is insufficiency in either noticing-elicitation or processing-facilitations. Focus on meaning, being the meaning-oriented context, is relatively less capable of eliciting learner noticing of the mismatch between input and output. Focus on forms, being the form instruction, fails to provide semantic elaboration in which the memory of target structure can be

embedded: in a course filled with mechanical drill without meaningful context, processing, which is in essence the form-meaning connections (Wong, 2005), could hardly take place. In short, where focus on meaning and focus on forms are insufficient, FonF rightfully takes over.

Learner awareness in each treatment

Further consideration of writing instruction inevitably involves the issue of efficacy and thus brings to the surface the differences among the three pedagogical activities, IE, CF and PI. Unveiled by the current study, IE was significantly less effective than CF, which is in turn subordinate to PI in terms of efficacy. One of the variables affecting the efficacy involves an issue of consciousness, that is, the learner awareness, at the very least, learner noticing, as Schmidt (1995) illustrated, "noticing concerns learners' consciousness and questions concerning the role of consciousness in learning, however difficult to answer, are important to all." Schmidt further suggested, "what learners notice in input is what becomes intake for learning" (1995). Therefore, to account for the differences in the efficacy of each treatment, the factors that might contribute to learner awareness (noticing), as well as what learner noticing helps to contribute (processing), should be exploited deeper.

Noticing

Noticing is of crucial status in FonF. As previously stated, by mediating the two stances of language teaching, meaning immersion and form instruction, FonF entails shift of attention, triggered by instructors' observable behavior and completed by learners' awareness involvement. Yet, FonF does not always generate a precise correlation between them. That is to say, these two stages do not always match correspondingly; as Long pointed out, "what it is hoped that a pedagogical activity will achieve and what it actually achieves are not necessarily the same" (Long, 1998). Since the latter half of shift of attention, the learner noticing, leads to subsequent intake, and since it is this final state of intake that determines how effective the different ways presenting the input actually are, the more learner noticing one certain FonF pedagogical activity induces, the more effective it is. The crucial point for the outcome, then, is located on the learner noticing. Long expressed his recognition accordingly, "The intended outcome of focus on form is ... noticing" (Long, 1998, p. 24).

Noticing is primarily a mental occurrence which is not tangible and thus not directly observable. One way to elicit reflection of learners' mental operation is through means of questionnaire:

"At the very least, these measures should include debriefing questionnaires to

probe the extent to which learners were focused on form during the instructional treatments, rather than assuming that the instructional treatment translated directly into the quality of learner attention and awareness" (Long, 1998, p40)

In the current study, to examine the extent of participants' noticing, the means of questionnaires was adopted and carried out during the intervention. The ratios of noticing within each group (calculated according to the formula: the number of participants within a group who noticed the target form/the number of all the participants within a group * 100%) are 42.86% (IE), 53.85 (CF), and 85.29 % (PI). The ratio of each group reflects the relative efficacy as addressed in the second research question. The mean difference showed that IE was the less effective of the three, CF in the middle, and PI the most effective one. Considerable support for the view that noticing leads to subsequent intake and final efficacy can be thus gained. To benefit the learners, means must be taken to activate noticing. One of the means to trigger learner noticing, among others, might be the factor of interaction.

In IE, the intervention was not interactive in essence, due to the fact that it was given before participants actually write and therefore not a response *per se* to the participants' output in any form. In addition, it was confined to the presentation of a paper-based document, on which there was only the reading material where the target form was underlined and printed in boldface type. The participants could only rely on themselves to read, without extra assistance or guidance. Under the circumstance, it

was expected that, upon reading the words with the target form, whose visual saliency had been enhanced, the learners would notice the target form, and by noticing the learners would get to apply it correctly. However, the actual conduction of IE did not reflect so. In the questionnaires filled by the group IE, 15 out of 35 participants reported that they did notice it was the past tense that was particularly marked. In other words, up to 20 participants did not notice so. The ratio of learner noticing was 42.86% (15/35*100%).

Apparently, the visual salience did not guarantee thorough comprehension of the target form from the learners. It might be true that visual salience is capable of getting the learners' attention, enabling them to linger the eyesight on the enhanced form longer, and learners might actually detect the visual differences between enhanced form and the other parts of the reading material. Yet, if the detection of the visual salience fails to arouse subsequent noticing, in which learners make sense of the enhanced form, tagging it with the metalinguistic knowledge they learned before, the stimulus of the visual salience is probably less capable than other more interactive means. The matching of form and meaning constitutes the input processing mechanism, without which further processing and internalization would not be possible. The contribution of textual enhancement to the efficacy, along with the efficacy itself, is consequently quite limited.

In terms of the noticing-activating capability, another treatment, CF, was quite different from IE. This is partially due to the fact that involvement of interaction is different. In CF, the feedback given to the learners was "corrective" in essence. It was a response to the output generated by the learners. Though the marking of the mistakes resembles the visual enhancement in IE, it is more capable of arousing learner noticing. The reason is largely due to the effect of the previously stated factor, interaction, in which, by offering correction, CF draws learners' attention to the mismatch between their self-generated output of the target form and its accurate usage. Therefore, though IE and CF both made use of written input, CF entailed learners' interaction to the written form to a greater extent than IE did, and the interaction contributed to more learner noticing. As shown by the outcome of the questionnaires, 21 learners out of 39 in the group of CF did notice it was the past tense that they had incorrectly used, had been marked and corrected. The ratio of learner noticing was 53.85% (21/39*100%).

Instead of merely receiving input/stimulus given by the instructor, learners have to do something during the phase of structured input activities. Though strictly speaking, the interaction does not resemble the genuine interaction found in authentic setting, e.g., the give-and-take of meanings, negotiations going on between two interlocutors,

etc., PI does arouse similar mental work of processing. Learners respond to the questions, simultaneously receiving varying answers from their counterparts, which, if differed, would trigger learner noticing of the mismatch between their own answers and others' answers, and thus enable further processing within the learners. This process resembles what Interaction Hypothesis suggests: noticing the mismatch between one's own output and previous input one received (Long, 1981). Furthermore, in addition to the referential structured input activity, there is the affective structured input activity as well, where learners are encouraged to express their own meanings using the target structure. Genuine interaction is enabled even more at this phase. This engagement of learners in communication of meanings and interactions reflects a corresponding high ratio of learner noticing. Out of 34 participants in PI, 29 did notice the target form as the English past tense, generating a ratio of 85.29 % (29/34*100%).

The differences among the noticing ratios reflect to a certain extent the fact that the amount of interaction generated by each treatment is different, which may be due to the explicitness of the information about the target form that was presented. It may not arouse much interaction when it is presented implicitly, where information about the input is not directly presented to the learner. For example, in IE and CF, information about the target form, the English past tense was not made clear. One provided enhanced form, and the other provided accurate form (in response to the

incorrectly used form from the learners). Neither told the learners directly that it was the past tense that was emphasized. For learners to interact with written symbolizations, then, meanings must be extracted. How explicit the meanings were presented in turn influences how much noticing there would be. In an implicit presentation of the target form, such as the one used in IE, learners needed to decide what visually enhanced form is implied. That is to say, they needed to process what information the boldface type and underline (as used in the current study) were telling them about the target form. This stage entailed great mental work, requiring learners to think (process) about what they saw. Some might manage to get it right, others might apply metalinguistic knowledge other than the target form (e.g., past participle), and there might be still others who might altogether ignore the enhanced form, opting to read the content first, since there was the time constraints allotted for reading session. Consequently, such implicit presentation of the target form might not be able to narrow learners' attention down to what is expected of them to notice. This is especially the case when the target form is complex and thus not straightforward for the learners to apply knowledge that they have not completely acquired. As DeKeyser stated:

"Two factors conspire to determine ... whether the learner must induce an abstract rule, in which case the structure is harder to notice without explicit focus on form. The first factor is surface variation that tends to conceal the rule... The second factor that makes the structure a rather abstract rule is the distance between the co-occurring

elements" (DeKeyser, 1998, p46)

These two factors precisely describe the past tense of English verbs. There is the irregularity of the past verb, which tends to conceal the surface rule of regular past tense. The agreement between the verb and the time frame can be far apart, or nearly entirely hidden from viewing, due to the fact that story-telling is set in the past, and thus sometimes the time clue is not stated. This entire abstraction about the English past tense makes it difficult for learners to rely on pure input of positive evidence or visually enhanced form to learn well, which was further illustrated by DeKeyser, "...although implicit learning of similarity patterns is possible, implicit learning of abstract rules is not" (DeKeyser, 1998, p. 45). To tackle the abstraction, implicit input therefore seems to be insufficient. In addition, in the current study, the implicit input is confined to the format of written language. Learners' attention might not be fully potentialized.

Dwelling on this notion about learners' attention might be another factor that contributes to the less capability of written format in arousing learner noticing. As Robinson suggested, "important to a theory of SLA that allows a central role to the act of noticing is a specification of the nature of the attentional mechanisms involved, and of their relationship to current models of the organization for memory" (Robinson, 1995). Implicit written input seems less than competent, when viewed either in Filter

Theories or Capacity Theories. One example of Filter Theories, proposed by Broadbent (1958), the "bottleneck" model, suggested that one selective attention mechanism (filter) would be at work, selecting the information (input) to come in and save for later processing. This, along with the aid of VanPatten's view that "Learners process content words in the input before anything else" (VanPatten, 2004, p. 8), will make it apparent for one to infer that learners, when exposed with a mixture of written content from which they need to process the form and meaning, will tend to process meaning first, with the target form being filtered out. Noticing ratio of the two treatments which adopted written form could be expectedly low in that learners need to register the meaning first, which might already be a demanding task for them. This can also account for the possibility that the awareness involved in IE was mostly limited to detection only, not to the level of noticing, since it was filtered out.

Capacity theories, on the other hand, deeming the attentional resource from a perspective different from the Filter Theories, proposed that there might be "pools" of attentional resources from which one can make use of. Wickens expanded the concept and divided them into three dimensions: (a) perceptual/cognitive vs. response process; (b) analog/spatial vs. verbal linguistic; and (c) auditory vs. visual and vocal vs. manual. One particular emphasis here is that "attentional demands of tasks, and so their relative difficulty, will be increased when concurrently performed tasks draw

simultaneously on the same pool of resources" (Wickens, 1989). Inferences can be made at this point that when input is entirely presented to the learners in form of written language, the attentional demand will be high and serial processing of input comes into position, where input either of information or form is processed in succession. When there is time constraint, the process of form will probably be crossed out. Parallel processing, rather than serial processing, will not be at work, since the task demands the same pool of attentional resource, the perceptual (reading).

Following noticing: processing

In contrast to IE and CF, PI adopts several means catering to these noticing-arousing issues, and arguably takes a step further to tap into later sequence, the processing, and the final uptake, a step that is largely missing in the other two treatments.

As reviewed previously, noticing might be influenced by a few facets: interactive nature of tasks, the complexity of the target form, explicitness of presentation of input, and the application of different modules of attentional resources. Characterized earlier in Chapter II, PI offers straightforward information about the linguistic form, along with a common (but incorrect) strategy of processing the target form. This procedure largely tackles the issue of complexity of the target form, which requires a rather

explicit presentation of the rules. In sequence, later referential structured input activities constitute a phase in which learners are faced with a series of questions from which they need to think from the input they receive, and even in the later phase, the affective structured input activities, they need to interact with fellow students. The session is filled with interaction. During the procedure, the input the learners receive include written documents (from instructional phase), auditory reading of an article, followed by a series of comprehension questions uttered by the instructor along with a precise transcript for them to read, and the final exchange of opinions with one another. In short, many attentional modules are made use of.

It is not difficult to infer that noticing is relatively induced more in PI than in IE and CF. What is worthy of the research interest is that, in addition to arousing learner noticing, PI further stresses the significance of what follows afterwards. Schmidt proposed that "intake is that part of the input that the learner notices" (Schmidt, 1990), and also "what learners notice in input is what becomes intake for learning" (Schmidt, 1995). In probing the essence of the relationship between input, noticing, and intake, it is clear that noticing is more appropriately seen as a threshold rather than a terminal. Crossing the threshold, input is transferred into intake, and yet intake is still not the final result of learning. Based on this lack of what continues forward, VanPatten supplemented that

"...processing implies that perception and noticing have occurred, but the latter two do not necessarily imply that a form has been processed (linked with meaning and/or function.

...intake...refer to that subset of the input that has been processed in working memory and made available for father processing (i.e., possible incorporation into the developing system)" (VanPatten, 2004, p7).

According to VanPatten, processing means the connection that learners make between a form and its meaning during the act of comprehension (VanPatten, 2002). After the processing, and repetitive reinforcement of input and output, intake could then become uptake. Integrated with all these principles, PI is featured with one primary characteristic which IE and CF do not have, which is the phase particularly designed for learners to activate their processors in putting what they notice beforehand into actual language use (structured input activities). In IE, closely following the presentation of the enhanced input was the actual production which learners have to engage. In CF, the scenario is roughly identical, with the production phase intimately following the presentation of corrective feedback. That is to say, learners do not have the chance to further process the intake (if any has been transformed from input by noticing, which is yet another uncertainty), and the processors cannot be fine-tuned. The stage of tuning the processor, on the other hand, constitutes a major part in referential structured input activities in PI:

"PI is designed to cause failure in interpretation at the beginning stages of activities so that the processors can begin to re-adjust...To be clear, PI does not manipulate the processors; it manipulates the input data so that the processors can do

Plainly put, structured input activities in PI propel the learners to think, from the mismatch they learn between the result of their own non-optimal processing strategy and that of others' correct ones, about what causes misinterpretation. Though resembling the corrective feedback offered in CF, the scenario differs a lot in that it is conducted on-line, during the procedure of comprehension and real-time production. In addition, in terms of attentional modules, PI makes sure that the meaning of the input is straightforward to the learners, both by clear instruction (auditory) and handouts of exact transcript (visual), thus releasing learners of extra burden they otherwise have to bear, for example, in CF session, where the learners have to rely entirely on themselves to decode the meaning and the form, using exclusively one attentional module (reading).

As far as the third research question is concerned, whether the efficacy of FonF treatment can be sustained, this latter stage is probably of considerable influence. In the delayed posttest, though generally better than the Control group, there was only one group among the three experimental groups performing significantly better, which was PI (the mean difference = 20.24, p = .00). CF was slightly better (the mean difference = 12.60, p = .07). IE did not even outperform the Control (the mean difference = -3.50, p = .91). The latter stage of processing-inducing design might

account for much and thus play a crucial role in sustaining the efficacy. This can be further support psychologically in the cognitive domain; as Anderson (2000) suggested, "...more meaningful processing of material results in better memories" (p. 190) and "What matters is how the person processes the material during its presentation" (p. 196). The processing stage in PI supplemented the vital phase where learners solidified what they were previously presented. To magnify the efficacy, this process made use of means other than that found in mechanical drills (focus on forms). The structured input activities are ones that were particularly designed to engage the overriding focus of the learners on the meaning of the input, a reason that is grounded as follows:

"Semantic elaborations should facilitate the process of inference by providing more things from which to infer...elaborative processing ...lead to both an increased recall of what was studied and an increase in the number of inferences recalled" (Anderson, 2000, p218).

In other words, PI outperforms IE and CF not only because it provides a chance for learner processing, it also makes use of semantic elaborative processing which, if not properly designed, might otherwise resemble those found in mechanical drills.

5.1.2 Pedagogical Implications

Besides perhaps processing instruction, which involves quite a rigid procedure in

conduction, as a whole, FonF is advisable in writing instruction. Due to the fact that it is a framework rather than an approach itself, it is quite flexible in being embedded in other teaching activities, and thus is quite applicable. When conducted in a larger class, FonF is more efficient than individual conferencing, such as the one conducted in Bitchener (2005). Considering the scenario of English writing education in Taiwan, where classes are usually composed of forty to fifty students, FonF possesses the value that individual conferencing might not be able to have.

Back to the widely applied method in writing instruction where this individual conferencing takes place, the CF, the current study offers the instructors something to bear in mind when adopting it: limiting the number of the target structure to one at a time. All too often, instructors take to correcting all the mistakes which can be spotted throughout a writing piece, for the purpose of offering the correct forms to the learners. Despite the good will, however, students would probably benefit little if there are simply many things to cater to and thus their attention gets distracted, shrinking the chance for them to notice.

IE, though not as effective as the other two treatments, could be taken into consideration when carrying out tasks for learners to engage in during or before a writing class. In the current study, the enhanced input was confined to written form, presented by a handout for students to read. The efficacy it has toward enhancing

learners' ability in using target structure is probably limited. Yet, from a different perspective, reading offers learners extra opportunities to immerse themselves in English, which is advisable in English education. Therefore, if viewed from a perspective in which the primary focus is to supply extensive reading for the students, and the peripherally affiliated purpose is to somewhat nudge the learners into noticing specific linguistic form, IE serves as a good method.

What lies beyond the scope of the current study and yet could be taken into consideration when designing pedagogical applications is the possibility of integrated effect from the combination of the three treatments. They are separated in the current study mainly because the purpose was to examine differences hidden in consciousness-raising capability and the subsequent efficacy thus achieved. The setting was an empirical study whose conditions for each treatment were supposed to be controlled. This differs from instructional setting, where conditions cannot be as highly controlled as laboratory setting. Preceded by this difference, the classroom setting is a place where pedagogical activities are supposed to be designed for the good of the learners. Since the three treatments adopted in the current study contributed to participants' learning to varied extents, it can be attempted to engage all three in different stages of instruction, with different focus. The IE could be used as a means to carry out self-reading, as practiced in the current English education in senior high school in Taiwan, the PI could be applied during a writing class, constituting a major portion of the writing instruction, and CF could be adopted as a response to learners' writing pieces. All could be formed into a procedure of relatively complete procedure of writing training.

5.2 On data collection and methodology

The current study was conducted in an authentic writing class in First Manka Senior High School, where there were some limitations. A local community as First Mankais, the students still have to pass BCT (Basic Competence Test) for a certain score before they can enter this high school. That is to say, the sample confined to the students in single one senior high school might not be in line with normal distribution. Yet, this is generally the case in every senior high school. All high school students have been "grouped" to some extent by this BCT, and thus not entirely in line with the normal distribution. Nevertheless, the current study still has its value in that First Mankais composed of students who are, relatively, low achievers. If the treatments come as effective for them, higher efficacy might be achieved in other schools.

The second limitation concerns the students' age. The participants in the current study are in their first year in senior high school, and they are expectedly unfamiliar with English writing. Yet, if the study had been carried out on students of older age

(2nd or 3rd graders), there would have been one more variable to take under control, which is the grouping of Liberal/SciTech orientation. Weighing the two conditions, the current study opted for the students who have not been sorted as their senior counterparts.

Another potential difficulty (probably not so much as a limitation) of carrying out the data collection is the students' motivation to write. In these three treatments, including CF, students did not receive what they thought as enough feedback from the researcher. There were times when participants query whether there would be "corrections" given. They expected that their work would be returned with corrections, and the disappointment was quite obvious. If one study design involves writing tasks that are more than the current study, the participants' willingness to keep on writing should be taken into consideration.

Still another difficulty affecting the participants' willingness to engage in the writing task is the schedule of mid-term and final examinations. The researcher had to take into consideration the fact that participants might not be highly motivated to write if the mid-term examination was around the corner. The participants' anxiety would be high and thus would wish a class "properly" be spent in regular teaching, not on writing instruction, which, for their current status, the first year in senior high school, is not of significant concern. As a result, the interval between the post test and

the delayed post test was not long. Where possible, an adequate interval should be adopted.

5.3 Summary

The current study attempted to seek alternatives to a widely adopted traditional method, the CF, in dealing with learners' linguistic misuses in writing. This attempt was not based on the rationale that CF is not effective or even harmful (Truscott, 1988), but rather, on the possibility that within this treatment, there is a certain factor, which has been largely ignored in the CF literature, and which might be extensively applied to other alternatives, in hopes of a more effective and better way to writing instruction.

In line with this principle, the current study probes into the framework of FonF, centering on the role of learners' awareness at noticing level, and adopts three common pedagogical techniques used in FonF, IE, CF, and PI, to examine how effective these treatments are in terms of raising learners' consciousness.

Though statistically supported, FonF treatments differ in detail. PI was more effective than CF, which is in turn more effective than IE. A point of departure could be the noticing-inducing capability found in each treatment, as revealed by the online questionnaires.

In addition to noticing, what further influenced the efficacy would likely be the opportunities for learners to process, posterior to the point of noticing and thus the intake.

As a whole, FonF is a framework whose manifestations as treatments can be adopted in treating learners' writing competence. With due consideration, however, must one take heed of the application in writing instruction. First, it is the linguistic form that the current study stresses on, catering to the prevailing use of the past tense in General Scholastic Test. For writing instruction embedded in the whole language approach, where a comprehensive criteria of grading is adopted, there is more to be researched based on the current study. Second, in terms of normal distribution of the samples, the current study was confined in the scopes of student samples. An ideal group of participants would be one composed by students from different senior high schools. This is suggested for future studies. Third, considering whether it is instruction or treatment that a teacher should emphasize on, the value of IE, CF, and PI might differ, beyond the scope of the current study. As VanPatten put it, "...any model of input processing is not per se a model or theory of acquisition" (VanPatten, 2004, p. 5). For the sake of long-term acquisition or procedural knowledge derived from implicit learning, it is a field untouched by the current study, pending for future research. Next, the research process, under the limitation of school term, was quite limited in length, which might be further improved in studies to come when attempts of ensuring the efficacy of each treatment are to be made. Finally, as issued by Long, "effects for instruction of any kind may be, and probably almost always are, gradual and cumulative rather than instantaneous and categorical..." (Long, 1998, p. 40). With this in mind, how FonF and the subsequent treatments can be better incorporated into other writing instruction or better designed and developed into an instructional approach per se, would be pending for future studies.

5.4 Conclusion

Weighing all the conditions of each treatment and the overall efficacy gained in the current study, it is advisable to adopt FonF framework in writing instruction in terms of enhancing learners' competence in applying specific linguistic form, which, in the educational setting in Taiwan, has traditionally been treated with corrective feedback. CF has its value in dealing with students' misuses in writing, and it is also widely considered by many (both teachers and students) to be of the crucial status in writing instruction. As a high school teacher who has adopted CF in dealing with students' mistakes in writing as well, I have often witnessed the students' improvement in writing. Yet the instructional reality, far too often, restricts the potential energy from the teacher that is allowed to devote and the possible

improvements of the students if more opportunities of practicing writing are granted. For idiosyncratic components of writing, much energy and devotion from the teacher and the students alike should be demanded. However, for minor flaws in language use that occur relatively frequently in students' writing pieces, such as past tense or V-s in third-person singular, there should be a more effective and more efficient treatment. If a teacher is able to influence the students' ability in using linguistic form by conducting a series of pedagogical activities (as shown in PI), and thus does not have to deal with each student's mistakes individually and consecutively, with each single piece of writing taking up the teacher 5 to 10 minutes to put down more or less the same CF, more time and energy can be spared for other aspects in writing that require individual treatment, such as the rhetoric. It was this last belief that motivated the current study. Hopefully more research interest will follow in this field, and the scenario of writing instruction will be gradually refined and improved in Taiwan.

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Appendix-A The consent form

教學實驗說明 研究者:紀昇助

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研究題目:FonF 對青少年英文外語學習者正式寫作使用英文動詞過去式的效用 I. 實驗流程敘敘:

本教學實驗研究將施測文法選擇一次,看圖寫作三次,及一次問卷填寫。實驗開始前,學生參與前測,計有文法選擇與寫作。選擇題為單選,測驗文法概念。之後依照一份連環圖畫所示,用英文寫出字數約 120-150 字的故事。其後教學訓練開始,學生接收一份範文,在指定的時間內(15-20 分鐘)詳讀完畢後,開始後測。後測第一部份為問卷,學生依指示填寫完問卷。後測第二部份為寫作練習,施測者將發給另一份連環圖畫,學生依圖用英文寫出字數約 120-150 字的故事,後測結束。其後一個月內,將有另一次延遲後測,亦為寫作練習,施測者將發給第三份連環圖畫,學生依圖用英文寫出字數約 120-150 字的故事,至此實驗結束。

II. 風險與益處

本教學實驗研究為學術目的,不會影響學子學期,學年成績或其他學籍評比, 任何在校表現亦均不受本研究左右。此份研究結果將有助於中等學校英文教師訓練學生英文寫作的發展,參與研究的學生也能同時從中獲取英文寫作的經驗。

III. 實驗資料的保存與使用

實驗資料由研究者保存,不會外留,目的為學術研究,不作他途之用。資料的使用,個人資訊將會嚴格保密。研究結束後,學生有權取汲自己的寫作複本,然須本人親取。

IV. 附註:

- 1. 研究者保有任何資料的學術所有權,得以進行學術分析、解讀及處理。
- 2. 學生對於前述內容若有所疑問,均可提出與研究者討論。
- 3. 聯絡方式

紀昇助

電話: 23019946#310; 0920035756

E-mail: sgaryz@gmail.com

教學實驗參與同意書

若同意參與本教學實驗,	請在「	同意」	欄打勾	;若不同意	,請於	「不同意」
欄打勾,謝謝。						

M111 -1 -11 -11	
□ 同意	
□ 不同意	
本人簽名:	家長簽名:
研究者:	日期:

Appendix-B Pretest 1 (multiple choice questions)

第一大	題 1-16 題綜合測	驗 請由四個選項中選出	将合文意,文法正	確的答案。
()1.	Life in the mount	ains quieter than life i	n big cities.	
	(A) are	(B) is	(C) to be	(D) being
()2.	Sorry, but I didn'	t hear the questions you _	Could you please	e repeat it?
	(A) ask	(B) asking	(C) asks	(D) asked
()3.	Everyone mi	stakes in his or her life. W	hat's important is no	ot to repeat them.
	(A) does	(B) forgets	(C) makes	(D) takes
()4.	I can't believe yo	ou the last piece of pizz	za and didn't even le	eave one bite for me
	(A) eat	(B) save	(C) saves	(D) ate
()5.	Deborah put som	e sugar and cream in her c	offee to make it	_ better.
	(A) taste	(B) tasted	(C) tasting	(D) to taste
()6.	Enya up earl	y this morning because she	e did not want to be	late for her trip.
	(A) wake	(B) get	(C) got	(D) wakes
()7.	My sister is very	angry with me because I _	her new pencil b	OOX
	(A) break	(B) gave	(C) send	(D) broke
()8.	Jean is crazy abo	ut the color purple. The wa	alls of her house are	all purple.
	(A) built	(B) dug	(C) painted	(D) shown
()9.	At dinner time, I	often enjoy telling Mom e	verything that a	t school.
	(A) happened	(B) happens	(C) happening	(D) happen
()10.	Marsha her f	riends would do something	g special to celebrat	e her birthday, but
	they just gave her	r a little card.		
	(A) thought	(B) does not think	(C) think	(D) did not think
()11.	Betty TV wh	en her little brother fell of	f the chair.	
	(A) watched	(B) was watching	(C) has watched	(D) will watch
()12.	The fishermen _	_ little about the island wl	nen they arrived the	re.
	(A) know	(B) knows	(C) knew	(D) knowing
()13.	We can't enter th	e house. I can't find my ke	y!	
	Is it possible that	you it in the car?		
	(A) leave	(B) drop	(C) places	(D) left
()14.	Alex: What are y	ou still here. It's already ei	ght o'clock.	
	Tom: Because I _	my work. Don't worry.	It's almost done.	
	(A) wasn't finish	ing	(B) wouldn't finis	sh
	(C) haven't finish	ned	(D) won't finish	
()15.	Do you want to s	hare with us your vacation	in America?	
	It so terrible.	Believe me. You wouldn'	t like to know.	
	(A) would be	(B) was	(C) is	(D) will be
()16.	A: You look worrie	ed. What's the matter?		
	B: I can't find my	y bicycle; I where I pa	rked it.	

	(A) forget	(B) didn't remembe	r (C) remember	(D) forgot
第二大	天題 17-18 題 填空	請依提示填入合適的	的答案	
()17.	A: What did you d	lo after school today?	150	
	B: Well, I just	some comic be	ooks. (我就只是看了些	[漫畫~)
()18.	Yesterday I went t	o the beach with my b	rother. The sun was so b	oright that it
	my eyes! (陽光超	亮, 刺痛我的眼睛)	1	
			11/	
第三大	ズ題 19-21 題 對 話	岳選擇 請由四個選項	中選出符合文意,文法	:正確的答案。
A: Ho	w come you look so	o tired? It's beautiful S	unday morning.	
B: I 19	up and went to	bed late.		
A: Wo	wand what time	20 you get up?		
B: Aro	ound 6 o'clock.			
A: Wh	y didn't you have a	a little bit more of shut-	-eye?	
B: Bec	cause there 21 the	he mosquitoes!		
()19.	(A) stay	(B) push	(C) pushed	(D) stayed
()20.	(A) do	(B) were	(C) did	(D) are
()21.	(A) is	(B) were	(C) was	(D) are
Dear M H Si many also try work, i	Ming-hui, low's everything? ummer vacation hato meet different y to help others. The so at first II was has changed me in a	s started here. This is not people. My school that's why I was asked to as helping others. But I a good way. I used to c	my second year in Amer ninks students should no o work at a hospital. I d ater I found I was in fac are only about my studi	rica. This year I have of only study hard but idn't get paid for the of helping myself. The es, but I'm different
	miss my friends in	Taiwan I hack hor	ne next summer after gi	raduating from high
	•		nen. She's going to have	
All the	e Best			
Yong-l	nong			
()22.	(A) ways	(B) doors	(C) chances	(D) tips
()23.	(A) think	(B) thought	(C) will think	(D) do think
()24.	(A) made	(B) makes	(C) allows	(D) allowed
()25.	(A) am	(B) will	(C) will going	(D) am going

BDCDA CDCAB ACDCB D read, hurt, DC B CBAD



Appendix C-Pretest 2 Questionnaire for IE group

Questionnaire

(Class No
٨	lame
1.	What did you see in this handout? Please phrase in a general term. 你在這份講義上看到了什麼?請大略描述。
2.	Do you think there was a pattern or rule behind it? Yes / No (Yes⇒continue; No⇒jump to question 6) 你覺得所看到的是否有規則? 是請續答, 否請跳到第 6 題
3.	Can you try to describe it? 能否試著做描述?
4.	Examine the whole text again with the rule you just found. Is there any exception to the rule? Yes / No 用你剛發現的規則重新檢視一次文章,這規則是否有例外?
5.	Specify your reason for question 4. 承接上一題,無論有無例外,請說明你的原因。
6.	Is there anything unusual about the following texts?下列有無任何異狀? a) Students in Taiwan have a lot to read, and they stay up for that. b) Emma sleeps in class because she stays up late. As a result, she was punished for sleeping in class. The students punished will stay

End of questionnaire- Your participation is highly appreciated. Thank you.

in the office for more homework after school.

Appendix D-Pretest 2 Questionnaire for CF group

Questionnaire

Class	
No.	
Name	

- 1. Did the teacher correct your writing? Yes / No 老師是否有改你的作文?
- Do you think the teacher corrected all the mistakes? Yes / No (Yes⇒ jump to question 6; No⇒ continue) 你覺得老師是否有批改全部的錯誤? 是請跳到第 6 題, 否請續答
- 3. What kind of errors did the teacher correct? 老師批改的是何種錯誤, 你能試著寫下來嗎?
- 4. Examine the whole text again with the rule you just found. Did the teacher miss any mistakes in the category you just found? Yes / No 用你剛發現的規則重新檢視一次文章,有沒有任何錯誤屬於你剛發現的那類型,而老師漏改的?
- 5. Specify your reason for question 4. 承接上一題,無論有無漏改,請說明你的原因。
- 6. Is there anything unusual about the following two sentences?下列二句有無任何異狀?
 - a) Students in Taiwan have a lot to read, and they stay up for that.
 - b) Emma sleeps in class because she stays up late. As a result, she was punished for sleeping in class. The students punished will stay in the office for more homework after school.

End of questionnaire- Your participation is highly appreciated. Thank you.

Appendix E-Pretest 2 Questionnaire for PI group

Questionnaire

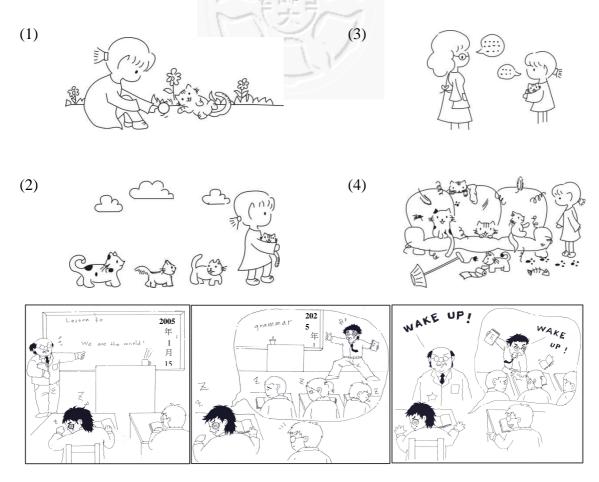
Class	
No.	
Name	

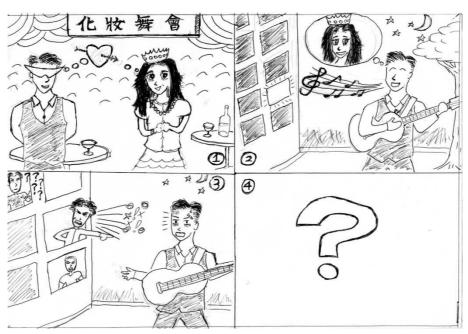
- 1. What was the linguistic rule that you just learned? 你剛上的課程是有關於?
- 2. Did you notice any mistakes from your classmates when he/she shared with you his/her winter vacation life? Can you give some examples? 你有注意到同學分享寒假生活時有任何的口誤嗎?
- 3. Is there any mistake in your recording of your classmates' sharing? 在你記錄同學的分享中, 有沒有任何錯誤?
- 4. If yes, what is it that failed your attention? 若有, 你覺得是什麼原因讓自己寫的時候忽略?
- 5. Is there anything unusual about the following two sentences?下列二句有無任何異狀?
 - a) Students in Taiwan have a lot to read, and they stay up for that.
 - b) Emma sleeps in class because she stays up late. As a result, she was punished for sleeping in class. The students punished will stay in the office for more homework after school.

End of questionnaire- Your participation is highly appreciated. Thank you.

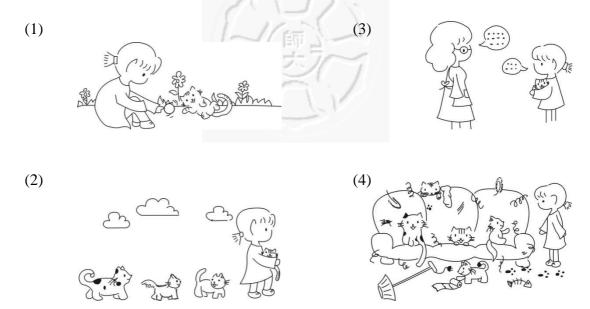
Appendix F-Pictures for story-writing in pretest, posttest and

delayed posttest





Appendix G-Model Passage for input enhancement handout



Spring has transformed the outskirts of the city into paradise. Sunlight *shone* upon the earth and the wind *sang* softly. Fresh green grass *spread* across the hills and valleys like an enormous carpet. Brilliant flowers of all colors bloomed in the gardens. Sarah, a little girl with a round face like a rose and sparkling black eyes *was* playing near her home. She hummed softly to herself and danced in the wind. Suddenly a movement in the bushes nearby caught her attention. An orange fur ball with a wriggly tail *was* peering out at her. It *was* a cat. Kneeling down, she gently called the cat towards her. It hesitated, but eventually emerged from its' hiding place. Sarah stroked the cat and it mewed affectionately. Playing with it for a while, Sarah *found* it the sweetest creature ever known. As an only child, she often *felt* lonely as though something *was* missing in her life. Examining the cat, she *found* no collar on its' neck and assumed it to be a stray. "Poor cat" she *thought*, "it must be all alone." She decided to take it home with her.

Lifting the cat into her arms, Sarah started home. She was however unaware of a line of cats following her until she reached her front door. "Oh well" she glanced at them, "it wouldn't hurt to let them all in for a while."

The smell of grilled chicken reached Sarah's nostrils as she entered the house. It was almost supper time and Sarah's mother greeted her from the kitchen wearing an apron. Sarah approached her mother and asked her timidly if she could have a cat. Her mother, though looking disapproved, agreed under the condition that Sarah should take full responsibility of the cat. But as Sarah entered the living room, her happiness changed into horror as she saw the floor dirty with footprints, the sofa scratched and the lamp knocked over. She was forced to let them all go but decided that she would see them all tomorrow in the hills again.

Appendix H-Handouts for PI group

The past tense in Writing 寫作-過去式

2. The past tense
It is used to refer to events that happened in the past.
The past means any time before the moment ""
"Now" is not an hour, not a minute, not a second. "Now" is
The past tense of a verb may be regular or irregular:
talk ⇒ talk
drink ⇒ drank
2. The past tense is used
when the action is before the moment you utter:
Mom: How is your homework going?
Johnny: I just <u>finished</u> it.
3. Students' non-optimal processing strategy
Applying simple the present tense to every verb.
Reason 1: In Chinese, there is no such concept of the past tense for
verbs.
Reason 2:When writing, students seek one-to-one correspondence
between Chinese verb and English verb.
⊙ 跳 □ jump
⊙ 玩 □ play
and thus ignore the past tense.

4. Avoiding errors

When writing, spare some time to think about the tense of verbs.

5. To think about the tense...

- In addition to the past tense, you also need to know what these tenses mean and why they cannot be used :
- 1. Chinese the present tense
- 2. English the present tense

6. The present tense

- ❖ The present tense is widely used. That is usually not correct.
- ❖ 多數同學寫作時動詞使用現在式,通常不正確。

7. Chinese vs. English

- ❖ The present tense in English does not refer to events happening "now."
- ❖ 中文「現在」≠英文「現在式」

8. 中文看似「現在」,是英文的何種時態?

1.

- ❖ 「糟糕! 我忘記帶書。」
 - A. I forget to bring the book.
 - B. I forgot to bring the book
- ❖ 中文動作沒有時態,用英文表達時,要思考動作發生在何時。
- ❖ 「忘記」是何時忘記?

2.

- ❖ 「喂? 哦, 我晚點打給你好不好? 我在打籃球。」
 - A. I play basketball.
 - B. I am playing basketball.
- ❖ 中文若強調「現在」
- ❖ 英文要用「進行式」

9.1 英文「現在式」不是指「現在」

John smokes. You can buy him cigars for present.

(約翰____, 你可以買雪茄給他當禮物)

- A. 現在抽煙
- B. 抽煙
- C. 有抽煙

9.2 英文「現在式」不是指「現在」

❖ The first class starts at 8 o'clock.

第一堂課八點 ____。

A: 現在開始

B: 開始

C: 有開始

9.3 英文「現在式」不是指「現在」

- ❖ Skin covers our bodies. 皮膚 我們的身體。
 - A. 現在覆蓋
 - B. 覆蓋
 - C. 有覆蓋

10. 英文「現在式」是指...

過去有, 現在有, 未來也還會有 不單單指現在。

- ❖ 習性 John smokes.
- ❖ 常態 The first class starts at 8.
- ❖ 事實 Skin covers our bodies.

Referential structured activity

Gary was an intern in HSNU 8-9 years ago. Now he is a formal teacher in First MankaSenior High (HJSH). Find out what he did in HSNU and what he does in HJSH.

- 4. He got up at 5:30, but he gets up at 7:30. Was Gary an early bird in HSNU?
- 5. He always rides his scooter to school. Does Gary take a bus to school?
- 6. He buys the breakfast on his way to school, but he bought the breakfast at school. *Does Gary have breakfast at home?*
- 7. It took him around 20-30 minutes to get to school. However, it takes him only around 5 minutes to get to school. *Did Gary get up earlier in HSNU?*
- 8. After he arrived at school, he first cleaned his desk before he started the whole day, but he has breakfast first as soon as he comes into the office. Which does Gary care more, cleaning, or eating?
- 9. His days were full of challenges, but he leads a simple life because he does not get much business. Was life easy for Gary?
- 10. As an intern, he taught nearly 10 classes, but after being a formal teacher, he teaches only 3 classes. *How many classes did Gary teach in HSNU?*
- 11. When he forgot to bring something, he would not go home because where he lived was far from school. If he forgets something, however, he will rush home and get it because where he lives is near his school. Was HSNU far from Gary's place?
- 12. He did all the orders from school, and he was so tired. He does some

- orders from school, and he can be more attentive. Was Gary busy in HSNU?
- 13. Tiring as it was, Gary had recreations to relax himself, which he seldom does because he gets lazy. Does Gary often have leisure activities?
- 14. He stayed school for activities, and there was a lot of fun, but not anymore because he already lost interest. *Does Gary still stay at school for activities?*
- 15. He played volleyball with other teachers at school, but he jogs by himself. Did Gary exercise with other people in HSNU?
- 16. He liked to stay at school, because he felt it was like home, and he still likes to stay at school, but it is because he thinks that students might come any time for questions. *Did Gary feel comfortable in HSNU?*
- 17. He had his dinner with friends, but he has his dinner with families, because there is not much chance they can meet. Who did Gary have dinners with in HSNU?
- 18. He went home at around 9 o'clock pm, but he is home at around 7 o'clock pm. Does Gary stay in the office after school for a while?
- 19. He came back to his parents' place because he lived with them, but comes back to his brother's place because he moved out after he became a formal teacher. *Does Gary live with his parents?*

Affective Structured Input

Time for you to use the past tense

Is your life in senior high school different from life in junior high? Write down your own comparison, and interview 2~3 classmates about theirs.

Find out more about your classmates' lives in junior & senior high

- 2. What time did you usually get up?
- 3. What time do you usually get up?
- 4. Where did you usually have breakfast?
- 5. Where do you usually have breakfast?
- 6. How much time did it usually take you to go to school?
- 7. How much time do it usually take you to go to school?
- 8. Were your days busy?
- 9. Are your days busy?
- 10. Did you have any recreations?
- 11. Do you have any recreations?
- 12. Did you often stay at school for basketball (or any other exercise)?
- 13. Do you often stay at school for basketball (or any other exercise)?
- 14. Did you go to any cram schools?
- 15. Do you go to any cram schools?

- 16. Did your family have any activities?
- 17. Do your family have any activities?

Cla	ssmate:
1.	What time did you usually get up?
2.	What time do you usually get up?
3.	Where did you usually have breakfast?
4.	Where do you usually have breakfast?
5.	How much time did it usually take you to go to school?
6.	How much time do it usually take you to go to school?
7.	Were your days busy?
8.	Are your days busy?
9.	Did you have any recreations?
10.	Do you have any recreations?
11.	Did you often stay at school for basketball (or any other exercise)?
12.	Do you often stay at school for basketball (or any other exercise)?
13.	Did you go to any cram schools?
14.	Do you go to any cram schools?
15.	Did your family have any activities?
16.	Do your family have any activities?

Cla	ssmate:
1.	What time did you usually get up?
2.	What time do you usually get up?
3.	Where did you usually have breakfast?
4.	Where do you usually have breakfast?
5.	How much time did it usually take you to go to school?
6.	How much time do it usually take you to go to school?
7.	Were your days busy?
8.	Are your days busy?
9.	Did you have any recreations?
10.	Do you have any recreations?
11.	Did you often stay at school for basketball (or any other exercise)?
12.	Do you often stay at school for basketball (or any other exercise)?
13.	Did you go to any cram schools?
14.	Do you go to any cram schools?
15.	Did your family have any activities?
16.	Do your family have any activities?

Appendix I- Percentage of accuracy from each subject in the pretest of multiple choice questions

CF	PI IE Control						
No.	%	No.	%	No.	%	No.	%
1	88.24	1	94.12*	1	94.12*	1	58.82
2	88.24	2	82.35	2	76.47	2	76.47
3	70.59	3	0	3	70.59	3	17.65
4	82.35	4	82.35	4	58.82	4	70.59
5	64.71	5	76.47	5	88.24*	5	41.18
6	82.35	6	100*	6	88.24*	6	70.59
7	88.24	7	82.35	7	70.59	7	11.76
8	70.59	8	76.47	8	58.82	8	5.882*
9	82.35	9	76.47	9	94.12*	9	88.24
10	88.24	10	100*	10	88.23529*	10	17.64706
11	76.47	11	0*	11	88.23529*	11	17.64706
13	76.47059	12	52.94118	12	47.05882	12	41.17647
14	70.58824	13	58.82353	13	64.70588	13	88.23529
15	82.35294	14	64.70588	14	58.82353	14	35.29412
16	70.58824	15	58.82353	15	94.11765*	15	52.94118
17	82.35294	16	58.82353	16	76.47059	16	82.35294
18	82.35294	17	58.82353	17	100*	17	70.58824
19	82.35294	18	64.70588	18	82.35294*	18	64.70588
20	76.47059	19	70.58824	19	64.70588	19	5.882353*
21	82.35294	20	58.82353	20	52.94118	20	11.76471
22	47.05882	21	52.94118	21	88.23529*	21	64.70588
23	52.94118	22	64.70588	23	94.11765*	22	64.70588
24	76.47059	23	100*	24	35.29412	23	76.47059
25	82.35294	25	58.82353	25	76.47059	24	41.17647
26	76.47059	26	64.70588	26	70.58824	25	47.05882
27	47.05882	27	88.23529	27	70.58824	26	47.05882
28	82.35294	28	64.70588	28	47.05882	27	82.35294*
29	76.47059	29	64.70588	29	0*	28	58.82353
30	100*	30	88.23529	30	70.58824	29	11.76471
31	70.58824	31	82.35294	31	52.94118	30	17.64706
32	58.82353	32	82.35294	32	35.29412	31	17.64706
33	64.70588	33	88.23529	33	58.82353	32	52.94118
34	70.58824	34	94.11765*	34	76.47059	33	52.94118
35	70.58824	35	58.82353	35	82.35294*	35	29.41176
36	58.82353	36	94.11765*	36	76.47059	36	52.94118
37	64.70588	37	52.94118	37 126	64.70588	37	47.05882

39	76.47059	38	76.47059	38	94.11765*
40	82.35294	39	82.35294*	39	88.23529*
41	82.35294	40	58.82353	40	64.70588
42	64.70588	41	82.35294*	41	64.70588
		42	64.70588	42	76.47059
		43	76.47059	43	64.70588

^{*&}gt;90% or <10%