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Abstract

Based on the input processing theory and output hypothesis in Second Language Acquisition, and employing quantitative and qualitative methods, this study investigates the effects of Textual Enhancement (TE), Input Processing Instruction (PI) and Presentation-Practice-Production (3P), and tries to compare the initial learning and retention effect on the acquisition of unreal conditionals in Chinese college English classrooms. The research findings are as follows: 1) Both PI and 3P are effective. TE is effective in initial learning but falls short for retention effect. There is significant difference between the TE, PI and 3P groups. 2) In initial learning, 3P has the best effect based on learners' mean score, followed by PI and TE, but there is no significant difference between PI and 3P. There is significant difference between 3P and TE, PI and 3P. 3) With regard to the retention effect, 3P and PI work better than TE. And there is no significant difference between 3P and PI. The research findings indicate that explicit explanation about language structures plays an effective and necessary role in English learning in the Chinese context. English teachers are suggested to involve the learners with grammar through meaningful activities such as structured input activities.

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1. Introduction

Grammar teaching has always been controversial in second language acquisition. Meanwhile different grammar teaching methods were brought into China, such as Grammar Translation Method, audio-lingual method, immersion, etc. In the late 20th century, communicative language teaching was brought into China and so many researchers and English teachers became crazy about it. Therefore, grammar teaching was downplayed due to their overemphasis on comprehensible input. So researchers and English teachers began to think about the grammatical accuracy in communicative classes.

Krashen (1982) put forward "comprehensible input hypothesis" and used "i" to refer to the students' current language ability and the next state is "i+1". Students move from "i" to "i+1" only by understanding a large amount of natural comprehensible input. Some researchers hold different opinions. Ellis (1994) argued that formal instruction is helpful for students to acquire second language. An increasing number of empirical studies have proved the positive effects of explicit grammar instruction (e.g., Long, 1991; Ellis, 2001; Doughty and Williams, 1998). In recent years, it has been widely acknowledged that formal instruction plays an important role in grammar acquisition, especially for second language learners (Ellis, 2002). The primary concern has now shifted to finding out more effective methods of formal instruction.

Schmidt (1990) believed that only when the learners consciously notice the form in input while comprehending the meaning can they acquire the language. On the basis of Noticing Hypothesis,

Sharwood-Smith (1993: 165) put forward the term "enhanced input" and argued that meaning-based activities in the target language alone might not enable learners to find relevant input language features, thus it will be helpful to employ some techniques of input enhancement to make them salient and invite noticing.

While VanPatten began to explore how instruction promoted learning, he argued that if we know how learners process input, the instruction can be aimed at improving processing efficiency (Nie, 2012: 10). VanPatten's Input Processing Theory tries to combine formal instruction about grammar and inappropriate processing strategies with structured input activities consisting of referential and affective activities. These structured input activities are designed to help learners to make connections between form and meaning. In recent years, some researchers started to compare the learning effects of traditional grammar teaching and input processing teaching.

But in real English grammar classes, most English teachers follow three steps: presentation, practice and production. In the first step, the teacher shows the language points or sentence structures in order to assist students in mastering the declarative knowledge, thus help them have an overview of the grammar structures. Practicing what they have learned can deepen the understanding of the declarative knowledge and promote the transition from declarative knowledge to procedural knowledge. In production, the students may try to express what they want by using what they've learned. This 3P teaching method is the most widely studied and applied in the second and foreign language teaching. The main problem lies in the gap between it and real communication.

Up to now, most researches focused only on the input processing or comparing the effects of traditional teaching and input processing. Few researchers paid attention to input enhancement, a rather implicit way of teaching grammar. But enhanced input is easy to carry out in reading classes and has turned out to be effective in vocabulary acquisition. So the comparative study on input enhancement, input processing and 3P would provide teachers and students with new ways to look at grammar teaching.

2. Literature Review

This section first introduces Sharwood-Smith's Input Enhancement (IE), VanPatten's Input Processing Instruction (PI) and the 3P teaching method. Then, previous empirical studies of the effects of IE, PI and 3P will be reviewed.

2.1 Enhanced Input

Researchers and English teachers have been thinking about better ways to teach English grammar. Long (1998: 15) first put forward "Focus on Form" (FOF), i.e., drawing students' attention to linguistic elements such as words, collocations and grammatical structures while focusing on meaning. During this process, "noticing" plays an important role. Cognitive psychologists think "noticing" is necessary to turn "input" into "intake". Schmidt (1990) first proposed the noticing hypothesis, which suggests that second language learners could not begin to acquire a language feature until they had become aware of it in the input. Sharwood-Smith (1993) argued that meaning-based activities in the target language alone might not enable learners to acquire relevant input features, thus employing some form of input enhancement to make input salient and encourage noticing is necessary.

Sharwood-Smith (1991) first coined the term "Input Enhancement", which refers to teachers' attempts to make the target structures in L2 input more salient to draw learners' attention to these language features so that it can be easily acquired. Sharwood-Smith argued that teaching of language form not only includes metalinguistic explanation of language rules and recitation but also some other implicit ways to draw

students' attention, such as textual enhancement.

Textual enhancement, also known as written or visual input enhancement, is one of the most implicit input enhancement techniques. Its main characteristic is to draw learner's attention to linguistic features by modifying the physical appearance of written texts. The target structures are usually in bold, underlined, italicized, or written in capital letters. The hypothesis is on the assumption that these techniques would lead the learners to noticing the specific features as they read the texts. This thesis focuses on "textual enhancement" as a form of "input enhancement".

2.2 Input Processing Theory and Input Processing Instruction

In the 1990s, VanPatten put forward the input processing model. In his opinion, processing refers to making connections between form and meaning. In other words, making form-meaning/function connections in real communication is what processing pursues. See Figure 1 for the model.

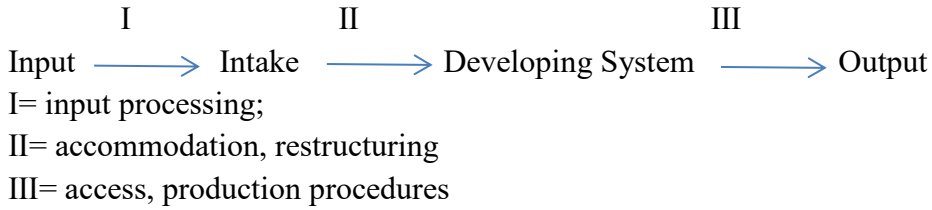

Figure 1. Processes in L2 Acquisition (VanPatten and Caderino, 1993a: 228)

VanPatten describes his model as follows: input gives the data; input processing makes data available for acquisition; other mental mechanisms classify and restore the data into the system which is always along with restructure and generation, and makes learners communicators and, again, may help them become better processors of input.

Based on the above model, VanPatten proposed another grammar instruction method-Input Processing Instruction, which is a psycholinguistic motivated focus on form that is an adjunct to communicative language teaching and/or to comprehension-based approaches (VanPatten, 1996: 10). The aim of Input Processing Instruction is to alter the inappropriate strategies for making form-meaning connections that learners take to the task of acquisition".

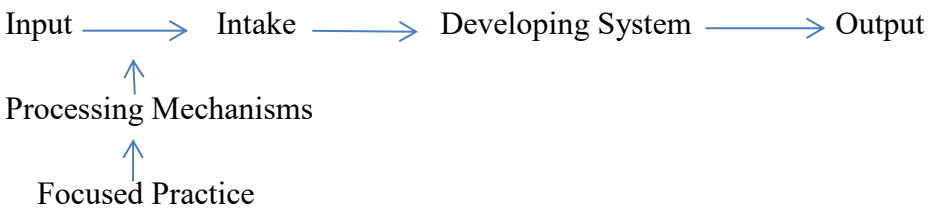

Figure 2. Input Processing Instruction (based on VanPatten, 1996)

The model in Figure 2 focuses on the process of conversion from input to intake. Learners are guided to abandon their default processing strategies for more optimal ones so that they would make better form-meaning connections (Wong, 2004). VanPatten (1996) further explained the three components of processing instruction.

Processing Instruction consists of three main components: the first component is the explicit information about the target language form in their native language. The second component is the information about

processing strategies, which may exert negative effects on learners choosing incorrect form-meaning mappings. The third component of Processing Instruction, Structured Input (SI), consists of referential and affective activities which are delicately designed to push learners to actively process the target form and try to connect the form to its function.

2.3 Output Hypothesis and 3P Teaching Method

The 3P grammar teaching method is based on Swain's Output Hypothesis. This section reviews the Output Hypothesis and the 3P grammar teaching method.

Krashen's input hypothesis was challenged by Swain who advocates the Comprehensible Output Hypothesis that learners should be given more opportunities to engage in language production. See Figure 3 for the model.

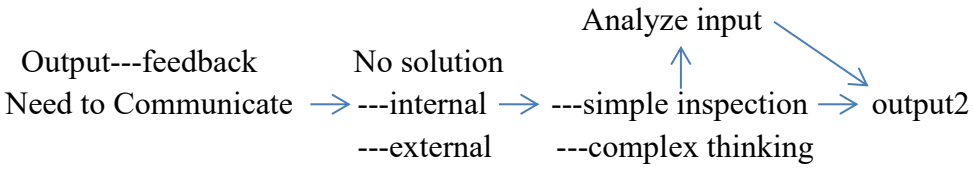

Figure 3. Output and L2 learning (from Swain, 1995)

Figure 3 shows that as the learner enters the stage of language production, he or she may notice the deviant forms in his output from the feedback. Here the feedback includes internal and external feedback. Internal feedback refers to learners' own reflection on their language use while external feedback refers to the correction from others, such as teachers and classmates. Then he begins to think about and reflect his deviant form by simple inspection and complex thinking. After this, if the learner still cannot come up with the correct form, then he/she would refer to the input to look for the relevant information. After that, the learner would reconstruct the form and produce a new output.

The 3P teaching method pays more attention to learners' output. VanPatten (2000: 45) defined traditional teaching method as "explanation plus output practices that move learners from mechanical to communicative skills". The process of traditional grammar teaching was explained by VanPatten (see Figure 4).

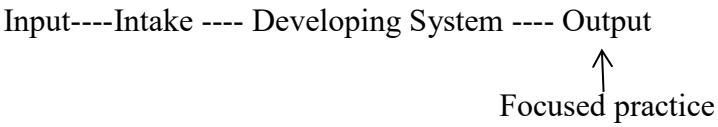

Figure 4. Traditional Grammar Instruction (VanPatten, 1993; 1996)

Figure 4 shows that different from Input Processing Instruction which puts focused practice between input and intake, traditional approach puts focused practice between developing system and output. The 3P teaching method requires learners to do exercise after presentation and explanation (Ellis, 2006).

The 3P Instruction consists of presentation, practice, and production. Presentation begins with explicit explanation of the target grammatical form followed by the examples of the usage of the target form. In the stage of practice, learners do drills and controlled practice and perform in a virtual scene. The stage of production is to build skills. In 3P teaching classes, learners produce the target language based on his or her grammar knowledge not impelled by the real communicative needs. It is still teacher-centered, ignoring students' initiative and students' real communication needs. However, the 3P grammar teaching method is widely used in English classes in China.

2.4 Previous Studies of EI, PI and 3P

Previous studies of EI, PI and 3P will be reviewed in this section. First, let's have a look at studies of EI.

Shook (1994), Alanen (1995), Wong (2002) and Jahan and Kormos (2015) examined whether textual enhancement is useful to attract students' attention and promote language acquisition. Shook (1994) studied the acquisition of Spanish present perfect and relative pronoun by English-speaking college freshmen and sophomores in regular and intensive classes aged from 18 to 19. The results indicate that the Textual Enhancement group performed better. Jourdenais et al. (1995) and Doughty (1998) also got the same conclusion. White (1998) examined the acquisition of possessive determiners by French-speaking learners in intensive ESL classes aged 11 to 12. She found that learners made more progress when they were given a simple rule and then worked together to find the correct form to complete stories that had blanks to which the possessive determiners belonged. Izumi (2002) conducted the same experiment to adult EFL students from different language backgrounds to test the learning effect of the relative clause in English, and found that the students in the TE condition did notice the target form, but failed to acquire the target form correctly. Overstreet's (1998) study with fifty adults also found no positive effects of TE on learning preterit and imperfect in Spanish. Wong (2003) examined how TE affects the acquisition of past participle agreement in relative clause in French and found that students in the TE condition showed no special performance on error correction task. Leow's three studies (1997, 2001; Leow et al., 2003) did not show positive effects of TE on grammar learning.

In China, researches on Textual Enhancement mainly focus on four aspects: acquisition of vocabulary, acquisition of grammar in reading, a comparison of different techniques of input enhancement, and the relationship between attention and textual enhancement. Wang (2011) carried out a study on textual enhancement on the acquisition of passive voice by senior high school students and proved the positive effect of textual enhancement. Wang (2013) conducted an empirical study about textual enhancement on the acquisition of unreal conditionals and found that textual enhancement can draw learners' attention to the target structures and can promote grammar acquisition in a short term, while textual enhancement with explicit explanation had the best learning effect. Pan (2015) tried to compare the effect of textual enhancement and output in facilitating the noticing and acquisition of subjunctive mood and found that textual enhancement was effective to draw students' attention to the target language structure but cannot promote the acquisition of the target structure. From the above, we can see that enhanced input, a way to raise learners' attention to language form, has attracted many scholars. Early studies not only elaborated the necessities of enhanced input in theory, but also provided various kinds of methods in practice. Scholars have conducted empirical studies to demonstrate and compare different ways of enhanced input, but the research findings are sparse, still holding doubt about the effectiveness of enhanced input. Therefore, further studies on the effects of enhanced input on learners' development of interlanguage are needed. Furthermore, the effects of enhanced input on College English Grammar learning in China have not been studied.

Next, let's have a look at studies of PI vs 3P.

VanPatten and Cadierno (1993a) compared Input Processing Instruction and output-based traditional grammar instruction. After that, a lot of studies have sprung up and tried to find out the effects of Input Processing Instruction compared with traditional or meaningful output-based instruction. VanPatten and Cadierno (1993b) examined the effect of Input Processing Instruction and Meaningful Output-based Instruction on the acquisition of direct object pronouns in Spanish. The results showed that Input Processing Instruction is more effective than Meaningful Output-based Instruction on grammar acquisition. VanPatten and Wong (2004) replicated the study of VanPatten and Cadierno (1993b) and tried to examine the effect of Input Processing Instruction and Meaningful Output-based Instruction on grammar acquisition. The

results confirmed the findings of VanPatten and Cadierno (1993b). Farley (2001a) examined the effects of processing instruction and meaning-based output instruction on the acquisition of the Spanish subjunctive of doubt. Results revealed that the former had an overall better effect than the latter on learners' interpretation and production of the present tense Spanish subjunctive. Benati (2001) investigated the possible effects of two types of form-focused instruction, i.e., processing instruction and output-based grammar instruction, on the acquisition of a specific feature of the Italian future tense. The results showed that processing instruction was effective on the learning of Italian verbal morphology, and was better than output-based instruction for L2 beginners. Benati (2005) investigated the effects of processing instruction, traditional instruction and meaning-based output instruction on the acquisition of the English past simple tense. The results showed that processing instruction had positive effects on the processing and acquisition of the target feature.

Other studies showed no significant difference between PI and TI, e.g., Farley (2001b), Buck (2006), Lee and Benati (2007a, 2007b), Qin (2008), Keating & Farley (2008) and Toth (2006). Although dozens of studies have been conducted to compare the learning effects of PI and TI in the past twenty years in western countries, there were no conclusive findings.

Chinese scholars also studied the learning effects of PI and TI. Wu (2008) compared the effects of PI and TI treatment using subjunctive as the target language structure. The results indicate that PI is better than TI in comprehension and output of target language structure, although TI can also promote learners' comprehension and production. The study of PI and 3P on the acquisition of relative clause by Wang (2009) involved 60 college students majoring in business English. The results showed that the two instructions can benefit the acquisition of relative clause. PI worked better than TI in comprehension, while TI outperformed PI in production. TI can help learners transform declarative knowledge to procedural knowledge whereas the effects of PI are not so significant. Wang (2015) carried out a comparative study of 3P and PI in acquiring the English subjunctive mood and found that: firstly, PI is superior to 3P in promoting comprehension. Secondly, the effect of 3P remains longer than that of PI in production. Thirdly, 3P may promote comprehension and production.

Based on the above, dozens of studies on TE, PI and 3P have been conducted, examining the acquisition of at least 10 structures in at least 5 languages. Almost all of these studies have provided data on learning outcomes through both interpretation and production tests. The designs are various: some have compared PI with a form of instruction that includes practice in production (variably labeled TI), meaningful output-based instruction, communicative output, or dictogloss); others have compared PI with EI or PI with affective activities.

There were only a few studies on College English grammar teaching and learning in China. And few researchers carried out studies to compare the effects of TE, PI and 3P. Also, few studies pay attention to both the initial learning and retention effect of grammar acquisition. The present study compares the effects of TE, PI and 3P in College English grammar teaching in China, which, to a certain degree, fills the gap.

3. Research Methodology

This section introduces research questions, participants, the target structure, experiment procedures, treatment and materials, testing instruments, scoring and data analysis.

3.1 Research Questions

This study is guided by the following research questions: 1) Do TE, PI and 3P facilitate the acquisition of

unreal conditionals by Chinese college EFL learners? 2) In the initial learning, which (TE, PI or 3P) has the best effect on the target structure? 3) Which (TE, PI or 3P) has the best retention effect on the target structure?

3.2 Participants

The participants are from a university in Nanjing. Their age ranges from 20 to 24 with the same first language background. The students are from three intact classes, i.e., Class A (35 students), Class B (32 students), and Class C (34 students). Class A received TE treatment; Class B received PI instruction; Class C received 3P grammar teaching. The three classes had the same teaching process and were taught by the author as the English teacher.

3.3 Experiment Procedures

The present study is quasi-experimental with a pre-test, treatment, immediate post-test and delayed post-test design. First, the participants were asked to take the pre-test one week before the treatment in order that all the participants of the study were initially homogeneous with regard to their knowledge of unreal conditionals. Afterwards, the students in the three different groups received their corresponding teaching methods about the same language structure so that they could have a better understanding of unreal conditionals. The instructions were delivered during the regular class time, and lasted for 40 minutes for each group. In the TE group, the learners were provided with two reading materials involving bold and underlined unreal conditional structures along with some related reading comprehension tasks. There was no explicit rule explanation. The PI group received explicit rule explanation about inappropriate learning strategies that students easily commit and structured input activities including the referential and affective tasks. The teaching of 3P group followed the pattern of presentation, practice and production. At the end of the treatment, the immediate post-tests were adopted in the three groups in order to assess initial learning effects of the treatments on the participants' unreal conditionals knowledge development and explore the possible differences among them. One week later delayed post-tests were administered to examine the retention of the target structure in learners' mind. The immediate and delayed post-tests lasted for 30 minutes. All data were collected over a period of one month.

4. Research Results and Discussion

153 students in the three classes participated in the study. First, students who scored more than 50% of the full score in the pre-test were excluded. Descriptive statistics and One-way ANOVA were carried out on the pre-test score to prove that there were no significant differences among the three groups. In other words, students in the three groups have similar academic level. After the selection by pre-test, 101 students in total were involved in the treatment, post-tests and delayed post-tests. The research results are reported in the following sections according to the research questions. SPSS19 was used to calculate descriptive statistics. One-way ANOVA and Post Hoc Analysis were carried out to reveal the differences in the immediate post-test and delayed post-test.

4.1 Research Results

Table 1 shows the mean scores of the three groups which demonstrated that there were no significant differences of the mean scores among the three groups in the pre-tests.

Table 1. Mean scores of the three groups in the pre-test

Groups	N	Mean	SD
TE	35	15.03	2.606
PI	32	14.81	3.01
3P	34	15.03	2.691

In order to show differences among three groups before the treatment, One-way ANOVA was carried out on the pre-test scores of three groups, See Table 2 for the results.

Table 2. One-way ANOVA for pre-test scores

	Sum of Squares	df	Mean Square	F	Sig
Between Groups	6.096	2	3.048	.345	.711
Within Groups	282.875	32	8.840		
Total	288.971	34			

Table 2 demonstrates that there were no significant differences among the groups before the treatment ($F(2, 32) = .345$, $p > .05 = .711$). Therefore, it proves the homogeneity of the students' simple unreal conditionals background knowledge.

4.1.1 The Overall Learning Effects of TE, PI and 3P

In order to answer the first research question which investigates the short and long term effects of TE, PI and 3P grammar teaching method on the learners' grammar acquisition, paired-samples T-Test was used to compare the differences of students' academic scores among pre-test, post-test and delayed post-test for each teaching method. For 3P and PI, the differences before and after the treatment were significant ($p = .000 < .05$); but there was no significant improvement in the TE condition. That is to say, the students in the 3P and PI groups had better performance than those in the TE group ($p = .000 < .05$) in both immediate and delayed post-tests. PI and 3P were proved effective on the acquisition of unreal conditionals in both short and long terms. As for TE, students really made progress in the short term, but there was no significant progress in the long term.

First, the researcher used three paired-samples T-tests to compare the students' performance on the pre-test, immediate post-test and delayed post-test of the TE group. See Table 3 for the results.

Table 3. Paired Samples Test for the TE Group

TE Group	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
Pre-test-Immediate	-3.171	3.249	.549	-5.774	34	.000
Immediate-Delayed	1.857	2.499	.422	4.397	34	.000
Pre-test-Delayed	-1.314	3.848	.650	-2.020	34	.51

Table 3 shows that the TE group's mean score in the post-test ($M = 18.20$, $SD = 2.826$) is much higher than that in the pre-test ($M = 15.03$, $SD = 2.606$). There is significant difference between post-test and pre-test

(p=.000<.05). In other words, after reading two passages with bold and underlined target structures, the students acquire some knowledge about the use of the target structure by self-observation without formal instruction. One week after the TE treatment, the students were asked to take the delayed post-test to examine the retention effect. The mean score is 16.34, which is lower than the immediate post-test but slightly higher than the pre-test. There is no significant difference between pre-test and delayed post-test (p=.51>.05), which indicates that learners in the TE group neither improved nor declined. But there was a slight increase on the mean score from pre-test to the delayed post-test. In sum, there was a statistically significant increase in grammar scores between pre-test (M=15.03, SD=2.606) and Immediate post-test (M=18.20,SD=2.826),t(34)=-5.774, p<.05(two-tailed) and between immediate and delayed post-tests (M=16.34, SD=3.124), t(34)=4.397, p<.05(two-tailed). There was no significant difference from pre-test to delayed post-test in the TE group (t (34)= -2.020, p= .51>.05).
Tables 4 and 5 show the results of the PI and 3P groups.

Table 4. Paired Samples Test for the PI Group

PI Group	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
Pre-test-Immediate	-9.344	3.033	.536	-17.426	31	.000
Immediate-Delayed	2.469	2.527	.447	5.526	31	.000
Pre-test-Delayed	-6.875	3.900	.689	-9.972	31	.000

Table 5. Paired Samples Test for the 3P Group

3P Group	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
Pre-test-Immediate	-10.206	3.875	.665	-15.357	33	.000
Immediate-Delayed	2.971	4.152	.712	4.172	33	.000
Pre-test-Delayed	-7.235	4.171	.715	-10.115	33	.000

Tables 4 and 5 show significant progress the students in the PI and 3P groups made on the learning of the target language structure. The differences between the pre-tests and the immediate post-tests and also pre-tests and delayed post-tests means of the 3P and PI groups are significant at the 0.000 level (p<.05). There was a big increase in grammar scores of the PI group from pre-test (M=14.81, SD=3.01) to the immediate post-test (M=24.16, SD=2.864), t(31)=-17.426, p< .0005 (two-tailed), and to the delayed post-test (M=21.69, SD=3.031), t(31)= -9.972, p<.0005(two-tailed).There was also a significant increase in grammar scores of the 3Pgroup from pre-test (M=15.03, SD=2.691) to immediate post-test (M=25.24,SD=2.934), t(33)=4.172, p=.000< .05 (two-tailed), and to delayed post-test (M=22.26, SD=3.387), t(33)= - 10.115.
In the PI and 3P groups, although the learners forgot some grammatical points they had learned in the delayed post-test, the statistically significant difference between their pre-test and delayed post-test scores prove that both had durable effects. In other words, PI and 3P teaching methods demonstrate their long term effect.
In sum, the statistical results show the effectiveness of the TE approach in improving learners' knowledge of grammar in a short term but not in a long term, while the PI and 3P teaching methods are effective in

both short and long terms.

4.1.2 Initial Learning Effect of TE, PI and 3P

In order to answer the second research question "in the initial learning, of the three instructions, which has the best effect on the target structure?", One-way ANOVA and Post hoc Analysis were used to compare the immediate post-test results of the TE, PI and 3P groups. See Tables 6 and 7 for the figures.

Table 6. One-way ANOVA on the Immediate Post-test

	Sum of Squares	df	Mean Square	F	Sig
Between Groups	989.113	2	494.557	59.840	.000
Within Groups	809.936	98	8.265		
Total	1799.050	100			

Table 7. Post Hoc Test for Three Groups

Group	Mean difference(I-J)	Std Error	Sig	95% Confidence interval	
				Lower Bound	Upper Bound
3P	-7.035*	.692	.000	-8.72	-5.35
PI	-5.956*	.703	.000	-7.67	-4.24
TE	7.035*	.692	.000	5.35	8.72
PI	1.079	.708	.392	-.65	2.80
TE	5.956*	.703	.000	4.24	7.67
3P	-1.079	.708	.392	-2.80	.65

Tables 6 and 7 show that there was significant difference between TE and 3P group, TE and PI group in the immediate post-test but no significant difference between 3P and PI group in the immediate post-test. Students in the PI and 3P groups outperformed those in the TE group on the grammar scores in the immediate post-test. Both the 3P and PI groups had significant gains on grammar scores. The mean score of the 3P group (M=25.24, SD=2.934) was slightly higher than that of the PI group (M=24.16, SD=2.864). But paired samples Test proved that there was no significant difference between the 3P and PI groups in the immediate post-tests. In other words, the PI group performed as well as the 3P group on the immediate post-test. That is to say, for initial learning effect, PI and 3P were better than TE.

4.1.3 Retention Learning Effect of TE, PI and 3P

In order to answer the third research question "of the three methods, which has the best retention effect on the target structure?", One-way ANOVA and Post hoc Analysis were used to compare the delayed post-test results of the TE, PI and 3P groups. See Tables 8 and 9 for the figures.

Table 8. One-way ANOVA on the Delayed Post-test

	Sum of Squares	df	Mean Square	F	Sig
Between Groups	733.533	2	366.766	36.110	.000
Within Groups	995.378	98	10.157		
Total	1728.911	100			

Table 9. Post Hoc Test for the Three Groups

Group	Mean difference(I-J)	Std Error	Sig	95% Confidence interval	
				Lower Bound	Upper Bound
3P	-5.922	.767	.000	-7.79	-4.05
PI	-5.345	.779	.000	-7.24	-3.45
TE	5.922	.767	.000	4.05	7.79
PI	.577	.785	1.000	-1.33	2.49
TE	5.345	.779	.000	3.45	7.24
3P	-.577	.785	1.000	-2.49	1.33

Tables 8 and 9 show that the mean score of the TE group on the delayed post-test was 16.34; for 3P group, it was 22.26; for PI group, it was 21.69. The results indicate that the 3P and PI groups' scores were significantly higher than the TE group. However, a significant difference was not observed between the 3P and PI groups. In other words, students in the 3P and PI groups performed better than those in the TE group on the learning of the target structure. It proved that PI and 3P were better than TE in the effect of retention learning.

4.2 Discussion

Based on the results, learners in the PI and 3P groups largely benefit from the treatments in the experiments. There was evident increase on learners' scores from pre-test (M=15.03) to the immediate post-test (M=24.16) and to the delayed post-test (M=21.69) in the PI group. This is also the case for the 3P group, from pre-test (M=15.03) to the immediate test (M=24.16) and to the delayed post-test (M=21.69). As for TE, there was significant difference between the pre-test and post-test whereas the difference between pre-test and delayed post-test was not significant. In other words, TE is effective in a short term, but not in a long term.

Compared with the PI and 3P groups, the TE group shows a significant difference, i.e., lower than the PI and 3P groups. The findings show that TE can promote learners' acquisition of grammar but plays a very limited role, especially compared with 3P and PI.

The findings of TE collaborate with White (1998), which proved the ineffectiveness of textual enhancement grammar teaching in the ESL/EFL learning context. The findings also support a number of studies which claimed TE had no facilitative effects on grammar learning (e.g., Izumi, 2002; Leow, 2001; Leow et al. 2003; Overstreet, 2002; Wong, 2003). It can be predicted that although textual enhancement could make the target structure salient and attract the learners' attention, it was not salient enough to ensure learners'

acquisition of the target structure. That is to say, textual enhancement just increases the chances of learners' notice of the target structures, but cannot guarantee learners' intake.

However, it is worth mentioning that there was significant difference between the pre-test (M=15.03) and the immediate post-test (M=18.20) in the TE group. To some degree, the findings are in line with some other studies (Alanen, 1995; Shook, 1994; Doughty and Williams, 1998; Ellis, 2001) which claimed TE's positive effect on grammar acquisition. The results of the present study also respond to Schmidt's (2001) claim that noticing is necessary and effective in language learning.

It is delicate to compare the present study with previous studies, for many factors were involved in these studies. These factors include types of enhanced input, characteristics of target forms, testing instruments, and duration of the treatments, etc. Moreover, important differences can also be found in learners, such as age, language aptitude, learning strategies, previous learning experience, mother tongue, and learner familiarity and readiness for the TE treatment. Some researchers explored the effects of textual enhancement as an independent variable with no other intervening variables (e.g, Jourdenais, 1998, Leow, 2001), while some studies investigated textual enhancement in combination with other variables. The combination with other factors may affect the results of TE treatment. One important difference between the present study and previous ones is that the participants in the present study had a very short period of exposure to the enhanced input. And the teacher did not give students hints to pay attention to the target form, so students' attention to the target form and acquisition were spontaneous without negative effects on their reading comprehension. However, many of the previous studies offered a long period of exposure to the enhanced target forms. Doughty's (1991) study of enhanced input on English relative clauses which proved TE treatment's positive effect on the acquisition of the target form lasted for ten working days. Shook (1994) and Alanen (1995) also confirmed some positive effects of TE on the acquisition of the target language structure. It might be that the lengthier and more intensive treatment would draw the students' attention, hence, strengthen their learning of the target forms, which was not possible for the short-term treatment in the present study. Another difference is the distinctive learning experience of the participants with the target forms and the way of grammar teaching they are used to. The present study does not witness any meaningful effects of TE.

First, the participants had little knowledge about the target language form. Due to the difficulty of the target form, learners seldom meet them in their study. Even when they meet the target form, teachers just translate the sentences for them without detailed explanation. Especially, after the selection of pre-test, the target structures were entirely or relatively new to the students. As Jourdenais (1998: 52) put it, "the implicit nature of the enhancement … was more likely to be beneficial to learners who already had some initial awareness of the forms and their use". However, in some previous studies, the participants may have learned the target structure before the TE treatment. Even though their prior knowledge of the target forms was not stable, it would be much easier for those participants to recognize and pay more attention to the target structures, hence acquire them.

Second, it was the first time for the participants to come into contact with textual enhancement, so they had no idea about this new technique. Interviews with the learners show that most of them were not aware of textual enhancement and just mistook it for normal reading classes. Only a few top students can notice different unreal conditionals, but it was still difficult for them to figure out in what situation could they use which rule. Average and weak students had difficulties in inducting the grammatical rules by reading.

Textual enhancement, as an implicit teaching method, just provides learners with correct samples of the usage of a certain grammatical rule, so students are lack of judgement about the wrong form. White (1998) found that learners made more progress when they were given a simple rule together with TE treatment. Izumi (2002) found that output tasks were beneficial for learners' grammar acquisition.

Some other factors also constrain the interpretation of the results. First, the lack of a control group is the most obvious one. A control group receiving the same reading materials and tasks without visual salience of the target forms can make it easy to estimate the real effects of the TE treatment.

Significant increase of the mean scores of the target structure from pre-test (M=15.03) to the immediate post-test (M=24.16) and the delayed post-test (M=21.69) happened in the PI group and the 3P group (from pre-test (M=15.03) to the immediate post-test (M=24.16) and the delayed post-test (M=21.69)). There was no significant difference between the PI and 3P groups in the immediate and delayed post-test.

First, the results of the present study confirm the effectiveness of Input Processing Instruction on grammar acquisition, which is in line with the studies of VanPatten (2003) and his colleague (VanPatten and Cadierno1993a, 1993b). Three components of PI play a vital role. Explicit information (EI) provides the learners with the features and rules of the target form. More importantly, the relationship between form and meaning is overtly explained in EI, especially for some complex language structures. Furthermore, PI adds information about processing strategies which aims to alter learners' default processing strategies. Finally, PI's third component, structured input (SI), consists of activities that are purposefully designed to push learners to actively process the target form and connect the form to its function in the meaning-based input. Referential activities include a series of sentences or phrases and learners have to make the correct choice between different meanings by focusing on the key distinctive features. Affective activity requires learners to express their feelings or opinions towards the content containing the target structures. These elements contribute to the successful learning of the target structures.

The outcomes of comparing the effects between PI and 3P are varied. Some researchers (Farley 2001a; Benati 2005, 2009; VanPatten and Uludag2012) reported an advantage for the PI group over the 3P or TI group in the post-test of the acquisition of the target language structures. However, other studies (e.g., Buck 2006; Lee and Benati 2007a) yielded no significant difference between PI and TI. Lee (2004) summarized the research results of Input Processing Instruction since 1993 and concluded that: sometimes traditional grammar teaching and meaning-based teaching can perform as well as the Input Processing Instruction. There is a strong tendency for studies with a significant advantage for the PI in comprehension not to show a significant difference in production or TI performing better than PI in production. In the present study, there was no significant difference between the PI and 3P groups.

In view of the differences between the present study and previous studies, some factors can be taken into account, such as the age and aptitude of the learners, specific instruction of the treatments, and the nature of the target structure.

The first factor is the complexity of the target structure, unreal conditionals, and explicit information in PI. Farley (2004) studied the suitability of PI for a structure of higher complexity, targeting the Spanish subjunctive. The results showed that both the PI and SI groups made significant gains, while the PI group made greater gains. This suggests a possible positive effect of explicit information for relatively complex structures and may help referential activities to make form-meaning connection. Previous studies show that explicit information (EI) can be beneficial to grammar acquisition when it is provided regularly, especially with structures of greater complexity, such as the subjunctive. And the gains from the explicit information are more stable and more likely to be found not only in the immediate post-test but also the delayed post-test. For easier structures (such as OVS), the SI or other forms of practice may be enough to make successful rule induction for most students. Under the negative transfer of mother tongue and the Primacy of Meaning Principle, even college students easily make mistakes on the acquisition of meaning and form of unreal conditionals. In addition, incorrect processing strategies would negatively affect learners' noticing, processing and application of the language form (VanPatten, 2002). In this study, Input Processing Instruction gave explicit information about the inappropriate processing strategies that may occur and

helped the students figure out the differences between "if" real conditionals and unreal conditionals, hence truly understand the form, use and function of the unreal conditionals (Wong, 2010). By this way, learners can notice the form while understanding the meaning of the target language structure, and, therefore, are more likely to build or enhance the form-meaning connection (VanPatten, 1996).

There was significant grammar score increase from pre-test to the immediate post-test and to the delayed post-test in the 3P group. It proved that the 3P grammar teaching method is effective. The mean score of 3P group in the immediate and delayed post-test was slightly higher than that of PI group, but the difference between the two groups were not significant. In contrast to PI, which doesn't push learners to produce the target language structure, students in the 3P group involved in production tasks, which might enable them to realize their linguistic problems and direct their attention to their errors about the target structure. The output-based 3P grammar teaching method may promote learners' cognitive processes which may help them to enhance the connection between what they have known and the new linguistic knowledge. The lack of advantage of output-based 3P grammar instruction in several studies may be due to the result of the non-communicative, drill-like practice they provided.

Conclusion

The present study investigates the effectiveness of Textual Enhancement (TE), Input Processing Instruction (PI) and 3P grammar instruction on the learning and acquisition of unreal conditionals. The major findings are as follows: 1) Both PI and 3P are effective. The output-based 3P grammar teaching method works better than PI on the mean score but without any significant difference. TE treatment is effective in initial learning but falls short for retention effect. And there is significant difference between TE and the other two groups. Compared with PI and 3P, TE is not that effective.2) In initial learning, 3P has the best effect based on learners' mean score, followed by PI and TE, but there is no significant difference between PI and 3P. There is significant difference between 3P and TE, and PI and 3P. PI helps learners to make connections between form and meaning through explicit explanation of grammatical rules and processing strategies and structured input activities. 3) With regard to the retention effect, 3P and PI work better than TE. And there is no significant difference between 3P and PI.

References

Alanen, R. (1995). Input Enhancement and Rule Presentation in Second Language Acquisition [A]. In R. Schmidt (eds.). *Attention and Awareness in Foreign Language Acquisition* [C]. Honolulu: University of Hawaii. 259-302.

Benati, A. (2001). A Comparative Study of the Effects of Processing Instruction and Output-based Instruction on the Acquisition of the Italian Future Tense [J]. *Language Teaching Research* 11(5): 95-127.

Benati, A. (2005). The Effects of Processing Instruction, Traditional Instruction and Meaning-output Instruction on the Acquisition of the English Past Simple Tense [J]. *Language Teaching Research* 9(1): 67-93.

Benati, A. (2009). *Japanese Language Teaching: A Communicative Approach* [M]. New York: Continuum.

Buck, M. (2006). The Effects of Processing Instruction on the Acquisition of English Progressive Aspect [J].*Estudios de Lingu¨ı´stica Aplicada* 4 (43): 77-95.

Doughty, C. (1991). Second Language Instruction does Make a Difference: Evidence from an empirical Study of SLA Relativization [J]. *Studies in Second Language Acquisition*6 (13): 431-469.

Doughty, C. (1998). The Effect of Instruction on the Acquisition of Relativization in English as a Second

Language [D]. Doctoral Dissertation, University of Pennsylvania, Philadelphia, USA.

Doughty, C. and J. Williams. (1998). Pedagogical Choices in Focus on Form [A]. In C. Doughty & J. Williams (eds.). *Focus on Form in Classroom Second Language Acquisition* [C]. Cambridge: Cambridge University Press. 197-261.

Ellis, R. (1994). *The Study of Second Language Acquisition* [M]. Oxford: Oxford University Press.

Ellis, R. (2001). Introduction: Investigating Form-focused Instruction [J]. *Language Learning*18 (51): 35-46.

Ellis, R. (2002). Does Form-Focused Instruction Affect the Acquisition of Implicit Knowledge? A Review of the Research [J]. *Studies in Second Language Acquisition* 13(9):223-236.

Ellis, R. (2006). Modelling Learning Difficulty and Second Language Proficiency: The Differential Contributions of Implicit and Explicit Knowledge [J]. *Applied Linguistics* 27 (3): 431-463.

Farley, A. (2001a). Authentic Processing Instruction and the Spanish Subjunctive [J]. *Hispania* 13 (2): 289-299.

Farley, A. (2001b). Processing Instruction and Meaning-based Output Instruction: a Comparative Study [J]. *Spanish Applied Linguistics* 8 (2): 57-93.

Farley, A. (2004). The Relative Effects of Processing Instruction and Meaning-based Output Instruction [A]. In B. VanPatten, (ed.). *Processing Instruction: Theory, Research, and Commentary* [C]. Mahwah, NJ: Erlbaum.

Izumi, S. (2002). Output, Input Enhancement, and the Noticing Hypothesis: An Experimental Study on ESL Relativisation [J]. *Studies in Second Language Acquisition* (24): 541-577.

Jahan, A. and J. Kormos. (2015). The Impact of Textual Enhancement on EFL Learners' Grammatical Awareness of Future Plans and Intentions [J]. *International Journal of Applied Linguistics* 3 (1): 115-121.

Jourdenais, R. (1998). The Effects of Textual Enhancement on the Acquisition of the Spanish Preterit and Imperfect [D]. Unpublished Doctoral Dissertation, Georgetown University, Washington, DC., USA.

Jourdenais, R. et al. (1995). Does Textual Enhancement Promote Noticing? A Think Aloud Protocol Analysis [A]. In R.Schmidt (ed.). *Attention and Awareness in Foreign Language Learning* [C]. Honolulu: University of Hawaii Press. 183-216.

Keating, G. and Farley, A. (2008). Processing Instruction, Meaning-based Output Instruction, and Meaning-based Drills: Impacts on ClassroomL2 Acquisition of Spanish Object Pronouns [J]. *Hispania* 91(3): 639-650.

Krashen, S. (1982). *Principles and Practice in Second Language Acquisition* [M]. Oxford: Pergamon.

Lee, J. (2004). On the Generalizability, Limits and Potential Future Directions of Processing Instruction Research [A]. In B. VanPatten (ed.). *Processing Instruction: Theory, Research, and Commentary*[C]. Mahwah: Lawrence Erlbaum Associates.

Lee, J. and Benati, A. (2007a). *Second Language Processing. An analysis of Theory, Problems, and Possible Solutions* [M]. New York: Continuum.

Lee, J. and Benati, A. (2007b). Comparing Modes of Delivering Processing Instruction and Meaning-based Output Instruction on Italian and French Subjunctive [A].In J. Lee and A. Benati (eds.).*Delivering Processing Instruction in Classrooms and in Virtual Contexts* [C]. London: Equinox. 99-136.

Leow, R. (1997). The Effects of Input Enhancement and Text Length on Adult L2 Readers' Comprehension and Intake in Second Language Acquisition [J]. *Applied Language Learning* 10 (8): 151-182.

Leow, R. (2001). Do Learners Notice Enhanced Forms While Interacting with the L2? An Online and Offline Study of the Role of Written Input Enhancement in L2 Reading [J]. *Hispania*7 (84): 496-509.

Leow, R., T. Egi, A. Nuevo and Y. Tsai. (2003). The Roles of Textual Enhancement and Type of Linguistic

Item in Adult L2 Learners' Comprehension and Intake [J]. *Applied Language Learning* 21(13): 1-16.

Long, M. (1991). Focus on Form: A Design Feature in Language Teaching Methodology [A]. In K. DeBot, R. Ginsberg, and C. Kramsch, (eds.). *Foreign Language Research in Cross-cultural Perspective* [C]. Amsterdam: Benjamins.39-52.

Long, M. and P. Robinson (1998). "Focus on form: Theory, research and practice". In Doughty, C. and Williams, J. Focus on form in classroom second language acquisition. Cambridge: Cambridge University Press. pp. 15-41.

Nie, H. H. (2012). The Effects of Input-based Practice and output based practice: A Quasi-experimental Study with English L2 Present Perfect as Target Grammar. [D]. MA Thesis, Nanjing Normal University, China.

Overstreet, M. (1998). Text Enhancement and Content Familiarity: The Focus of Learner Attention [J]. *Spanish Applied Linguistics* 9 (2): 15-23.

Overstreet, M. (2002). The Effects of Textual Enhancement on Second Language Learner Reading Comprehension and Form Recognition [D]. Doctoral Dissertation, University of Illinois, Urbana-Champaign.

Pan, C. Y. (2015). A Study on the Effects of Input Enhancement and Output in Facilitating the Noticing and Acquisition of Hypothetical Conditional Clause [D]. MA Thesis, Shanghai Normal University, China.

Qin, J. (2008). The Effect of Processing Instruction and Dictogloss Tasks on Acquisition of the English Passive Voice [J]. *Language Teaching Research* 6(1): 61-82.

Schmidt, R. (1990). The Role of Consciousness in Second Language Learning [J]. *Applied Linguistics* 9 (11): 17-46.

Schmidt, R. (2001). Attention [A]. In P. Robinson (ed.). *Cognition and Second language Instruction* [C]. New York: Cambridge University Press. 3-32.

Sharwood-Smith, M. (1993). Input Enhancement in Instructed SLA: Theoretical Bases [J]. *Studies in Second Language Acquisition* 5 (15): 165-179.

Shook, J. (1994). FL/L2 Reading, Grammatical Information, and the Input to Intake Phenomenon [J]. *Applied Language Learning* 9 (5): 77-88.

Swain, M. (1995). Three Functions of Output in Second Language Learning [A]. In G. Cook & B. Seidlhofer (eds.). *Principle and Practice in Applied Linguistics: Studies in Honour of H. G. Widdowson* [C]. Oxford: Oxford University Press. 125-144.

Toth, P. (2006). Processing Instruction and a Role for Output in Second Language Acquisition [J]. *Language Learning* 56 (2): 319-385.

VanPatten, B. (1993). Grammar Teaching for the Acquisition-rich Classroom [J]. *Foreign Language Annals* 21(26): 435-450.

VanPatten, B. (1996). *Input Processing and Grammar Instruction* [M]. New York: Ablex.

VanPatten, B. (2000). Processing Instruction as Form-meaning Connections: Issues in Theory and Research [A]. In J. Lee and A. Valdman (eds.). *Form and Meaning: Multiple Perspectives* [C]. Boston: Heinle and Heinle. 43-68.

VanPatten, B. (2002). Processing Instruction: An Update [J]. *Language Learning* 26 (52): 755-803.

VanPatten, B. (2003). *From Input to Output: A Teacher's Guide to Second Language Acquisition* [M]. New York: McGraw-Hill.

VanPatten, B. and Cadierno, T. (1993a). Explicit Instruction and Input Processing [J]. *Studies in Second Language Acquisition* 11 (15): 225-244.

VanPatten, B. and Cadierno, T. (1993b). Input Processing and Second Language Acquisition: A Role for

Instruction [J]. *Modern Language Journal* 32 (77): 45-57.

VanPatten, B. and Wong, W. (2004). Processing Instruction and the French Causative: Another Replication [A]. In B. VanPatten (ed.). *Processing Instruction: Theory, Research, and Commentary*[C]. Mahwah, NJ: Lawrence Erlbaum and Associates. 97-118.

Wang, D. (2015). A Comparative Study of PPP Instruction and Input Processing Instruction in Acquiring the English Subjunctive Mood [D]. MA Thesis, Hebei Normal University, China.

Wang, L. (2011). The Effect of Textual Enhancement on Chinese EFL Learners' Learning of the English Passive [D]. MA Thesis, Chongqing University, China.

Wang, T. N. (2013). The Effects of Textual Enhancement on Chinese English Learners' Noticing and Acquisition on the Target Linguistic Form [D]. MA Thesis, Ocean University of China, China.

Wang, X. R. (2009). A Comparative Study of Traditional instruction and Input Processing Instruction in SLA: An Empirical Study on Relative Clause Acquisition. [D]. MA Thesis, Southwest Jiaotong University, China.

White, J. (1998). Getting the Learners' Attention: A Typographical Input Enhancement Study [A]. In C. Doughty and J. Williams (eds.). *Focus on Form in Classroom Second Language Acquisition* [C]. Cambridge: Cambridge University Press. 85-113.

Wong, W. (2002). Decreasing Attentional Demands in Input Processing [J]. *Applied Language Learning* 9 (5): 21-27.

Wong, W. (2003). Textual Enhancement and Simplified Input: Effects on L2 Comprehension and Acquisition of Non-meaningful Grammatical Form [J]. *Applied Language Learning* 6 (13): 17-45.

Wong, W. (2004). Processing Instruction in French: The Roles of Explicit Information and Structured Input [A]. In B. VanPatten (ed.). *Processing Instruction: Theory, Research, and Commentary*[C]. Mahwah, NJ: Lawrence Erlbaum and Associates. 187-205.

Wu, Q. (2008). A Comparative study of the Effects of Processing Instruction and Traditional Instruction on the Acquisition of English Unreal If-Conditionals [D]. MA Thesis, Beijing Language and Culture University, China.