Effects of Processing Instruction and Dictogloss on the Acquisition of the English Passive Voice among Thai University Students

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Abstract

There were two purposes to this study. One was to compare the effects of teaching the English past simple passive through processing instruction (PI), dictogloss (DG), and traditional instruction (TI), and the other was to study the students' retention of the subject matter. A quasi-experimental research was conducted with 95 English-major freshmen from a public university in Thailand. The research materials were three lesson plans and worksheets. A pre-test, an immediate post-test, and a delayed post-test were conducted. The participants were divided into three groups: the processing instruction group (PI: n= 29), dictogloss group (DG: n=29) and the traditional instruction group (TI: n=37). Data analysis was performed by using Mean ($\overline{X}$), Standard Deviation (*SD*), One-Way Analysis of Variance (ANOVA): *F*, and the Scheffé test post-hoc test. The results indicated that while all types of grammar instruction could enhance the acquisition of the English passive, the PI and TI instructions were more effective than the DG instruction. The students in each group retained their understanding of the English passive over time. It is suggested that this study can inform teachers of ESL and EFL in their pedagogical approach, as well as indicating future research directions.

Keywords: processing instruction (PI), dictogloss (DG), traditional instruction (TI), the English passive

บทคัดย่อ

การวิจัยในครั้งนี้มีวัตถุประสงค์ 2 ประการ ได้แก่ เพื่อเปรียบเทียบผลของการสอนกรรมวาจกภาษาอังกฤษด้วยวิธีการสอนแบบ Processing Instruction (PI) Dictogloss (DG) และวิธีการสอนแบบดั้งเดิม (TI) และเพื่อศึกษาความคงทนของการสอนกรรมวาจกภาษาอังกฤษด้วยวิธีดังกล่าว การวิจัยในครั้งนี้เป็นการวิจัยกึ่งทดลองโดยเก็บข้อมูลจากนิสิตชั้นปีที่ 1 วิชาเอกภาษาอังกฤษจำนวน 95คนที่กำลังศึกษาในมหาวิทยาลัยของรัฐแห่งหนึ่งในประเทศไทย เครื่องมือที่ใช้ในการวิจัยได้แก่ แผนการสอนจำนวน 3 แผนและใบงานและแบบทดสอบที่นำมาใช้ทดสอบกลุ่มตัวอย่างก่อนเรียนหลังเรียนทันทีและหลังเรียนแบบทิ้งช่วงระยะเวลา

กลุ่มตัวอย่างได้รับการแบ่งออกเป็น 3กลุ่ม คือ กลุ่ม PI (29 คน) กลุ่ม DG (29 คน) และกลุ่ม TI (37 คน) การวิเคราะห์ข้อมูลกระทำโดยการหาค่าเฉลี่ย ส่วนเบี่ยงเบนมาตรฐาน การวิเคราะห์ความแปรปรวนและการเปรียบเทียบความแตกต่างระหว่างค่าเฉลี่ยเป็นรายคู่ด้วย Scheffé test ผลการวิจัยพบว่า แม้วิธีการสอนกรรมวาจกภาษาอังกฤษทั้ง 3 วิธีจะช่วยในการรับรู้กรรมวาจกของกลุ่มตัวอย่าง แต่การสอนกรรมวาจกภาษาอังกฤษด้วยวิธี PI และวิธี TI มีประสิทธิภาพกว่าวิธี DG และพบว่านิสิตจากทั้ง 3 กลุ่มมีความคงทนในการเรียนรู้กรรมวาจกภาษาอังกฤษเหมือนกันงานวิจัยนี้ได้เสนอแนวทางการสอนไวยากรณ์กรรมวาจกแก่ครูผู้สอนภาษาอังกฤษเป็นภาษาที่สองและครูผู้สอนภาษาอังกฤษเป็นภาษาต่างประเทศและได้เสนอแนวทางในการทำวิจัยในครั้งต่อไป

คำสำคัญ: การสอนด้วยวิธี Processing Instruction (PI), การสอนด้วยวิธี Dictogloss (DG) วิธีการสอนแบบดั้งเดิม (TI), กรรมวาจกภาษาอังกฤษ

Introduction

Extensive attention has been paid to the role of grammar instruction in ESL and EFL classrooms. The two types of grammar instructions, namely processing instruction (PI) and dictogloss (DG) have attracted a great deal of attention from scholars in the field of second language acquisition (SLA). PI is an input-based T&L approach which has its underpinnings in a comprehension oriented approach (VanPatten, 2002a, 2002b). PI facilitates language development by enabling learners to ignore default strategies and link form and meaning during comprehension. DG, on the other hand, is an output-based instruction in which grammatical rules are integrated into communicative collaborative tasks through dictation. It promotes second language learning development by providing an interactive conversation among peers.

Previously published research has examined the relative effect of PI and DG on ESL and EFL learners' grammatical knowledge. However, the results are not uniformly consistent. For example, Qin (2008), who examined the acquisition of the English passive voice through PI and DG with 115 seventh grade learners in China, found that learners in both PI and DG groups improved significantly in comprehension and production tests. Abbasian & Minagar (2012), measured motivation and attitudes towards PI and DG using questionnaires, and found that both DG and PI were significantly, and equally, effective at improving learners' grammar ability, yet DG was more motivational than PI. In contrast, a comparative study by VanPatten et al. (2009), evaluated the effectiveness of PI and DG on object pronouns and word order in Spanish, and found that the PI group outperformed the DG and the control groups in interpretation tasks, and the PI group achieved significant gains at the sentence-level production task. Uludag & VanPatten (2012), with a sample of sixty adult Turkish learners, that the PI group better acquired understanding of the English passive voice

than the DG group in terms of sentence-level interpretation, while both groups showed similar results based on sentence-level production and text reconstruction.

Errors in using the passive voice commonly occur with Thai learners of English. Sattayatham & Honsa (2007) reported misuse of the passive voice as one of the top ten most frequent errors committed by EFL Thai adult learners in academic writing. Similarly, Arunsamran, Authok & Poonpon (2011) pointed out that undergraduate students' writing tasks and academic papers produced by Ph.D. students were filled with these types of errors, both at the sentence level (Ayurawatana, 2002) and at the paragraph level (Putthasupa & Karavi, 2010; Charernwiwatthanasri, 2012).

The question remains, however, 'Which is the more effective teaching approach to teach English passive voice, PI or DG? Given the difficulty of understanding this construct by Thai students, it is considered to be worthwhile to investigate further into this area. The current study thus centers on the two main objectives: (1) to compare the effects of teaching English passive through PI, DG, and traditional instruction (TI), and (2) to study the students' retention of the English passive taught by the three types of instructions. The study was with Thai students. The research questions that guide the present study are as follows:

1. What are the effects of teaching grammar through PI, DG, and TI on the students' acquisition of the English passive?
2. Is there any difference in the retention of the English passive taught by PI, DG, and TI?

The structure of this research article is as follows. First, it reviews the related literature, which includes explanations of processing instruction, dictogloss and related research. Then, it describes the research methodology in detail, followed by the research findings. Finally, it presents the pedagogical implications considered relevant, makes suggestions for future research, and then concludes the discussion.

Review of Related Literature

Processing instruction (PI) is an input-oriented and form-focused instruction technique rooted in input processing theory. In other words, PI refers to explicit grammar instruction where the main concepts of input processing have been derived and used in order to uphold learners' intake (VanPatten, 2005; Barcroft & Wong, 2013). PI consists of three main steps as follows: explicit information (EI), input processing strategy (IP), and structured input activities (SI). In the EI step, learners are given an explanation of the rules of the target structure, which assists them in connecting form and meaning. In the IP step, learners are given processing mechanism problems that result in their understanding of the grammatical rule. In the SI step, learners are provided with structured input activities to circumvent the problematic rules in order to motivate learners to bind meaning and form (VanPatten, 2002a; Lee & VanPatten, 2003; Benati & Lee, 2008, 2010; Lee & Benati, 2009).

Dictogloss (DG) is a kind of collaborative output task that is widely practiced in second language classrooms. It is a text reconstruction dictation in which more competent learners assist their partners in an interactive dyadic writing work (Davis & Rinvolucri, 1988). DG consists of six main steps. First, learners are initially asked to listen to a brief text that is read at a normal speed by a teacher and are allowed to take notes while listening. Then, they are asked to work in pairs or small groups in order to reconstruct the text, after which they compare their version to the original text and receive feedback from the teacher (Wajnryb, 1990).

The results from the various investigations into the relative effectiveness of PI and DG on ESL/EFL students' learning of English grammatical structures have largely been inconsistent. For example, Qin (2008) conducted a quasi-experimental study to examine Chinese seventh graders' acquisition of the English passive voice in the simple present and past tenses through PI and DG using Chinese fables. The results revealed that both PI and DG groups improved significantly in comprehension and production tests. VanPatten et al. (2009) conducted a comparative study which replicated the study by VanPatten & Cadierno (1993) to evaluate the effectiveness of PI and DG on object pronouns and word order in Spanish to 108 second year university level Spanish students, who were assigned randomly into these three groups: PI, DG, and a control group. The results showed that the PI group outperformed the DG and the control groups in the interpretation task, and the PI group made a significant gain at the sentence-level production task. A similar study comparing the effectiveness of PI and DG on the acquisition of the English passive voice was conducted by Uludag & VanPatten (2012), in which sixty adult Turkish learners were assigned into three groups, namely control, DG, and PI groups. Their grammar abilities were tested in terms of sentence-level interpretation, sentence-level production, and reconstruction tasks, similar to the study by VanPatten et al. (2009). The results confirmed that PI is superior to DG although both DG and PI instructions proved effective in improving the students' grammatical knowledge. It was also found that the PI group significantly outperformed the control and DG groups on interpretation task.

In addition to examining the effectiveness of PI and DG, other researchers have investigated the factors affecting learners' language acquisition in PI and DG classes. Abbasian & Minagar (2012) investigated the effectiveness of PI and DG on the learning of English passive particularly, and the students' attitudes and motivation in these classes. The participants were a group of 83 Iranian beginning learners of English divided into a DG group and a PI group. Teacher-made achievement tests and motivation and attitude questionnaires were used. Both DG and PI were significantly effective at improving grammar ability, but DG was more motivational than PI. In addition, Suandari et al. (2013) investigated the effectiveness of DG on writing performance and motivation of the eighth-grade students toward the DG. Using DG was superior to traditional techniques for enhancing writing achievement in both high and low motivation students.

Methodology

Participants

A quasi-experimental study was conducted in which 95 English-major freshmen from a public university in Thailand who enrolled in an Intensive English Grammar Course (205101). Students were initially divided by means of a semi-randomized procedure into the three following groups: the processing instruction group (PI: n= 29), the dictogloss group (DG: n=29) and the traditional instruction group (TI: n=37). They were pretested on interpretation and written production tasks. The ANOVA results confirmed that the level of language proficiency of the three groups before commencing the instruction was similar, (interpretation: F (2, 92) = 1.996, p =.142; written production: F (2, 92) = 1.036, p =.359), as seen in Table 1.

Table 1: Means and Standard Deviations of All Groups from Pre-Testing

Groups	PI(n=29)		DG(n=29)		TI(n=37)		F	Sig.
	M	SD	M	SD	M	SD		
Interpretation	8.59	1.240	8.97	1.085	9.11	.906	1.966	.142
Written Production	7.72	1.750	7.76	1.746	8.30	1.970	1.036	.359

*p<.05

Target Structure: The English Past Simple Passive

The English past simple passive was particularly selected as the target grammatical structure because of three theoretical and pedagogical concerns. Firstly, as suggested by VanPatten (1996, 2002a, 2004a, 2004b), in reference to the First Noun Principle (FNP), learners are likely to assume the first noun or the first pronoun in the sentence is the agent. They misinterpret using their default strategies to think that the subject in the passive is the doer of the action. Secondly, Thai university students face many difficulties dealing with understanding and using the English past simple passive in academic writing tasks because of mother tongue interference (Thep-Ackrapong, 2005; Bennui, 2008), although most other learners whose native language is not English share this difficulty. Thai learners prefer to build up the passive sentence from perceiving the Thai meaning rather than the English syntactic rules (Danvivath, 2003). Thirdly, second language teachers often express concern about teaching the passive construction because it is seen as a complex structure, and it is a challenge for EFL teachers to expose learners to this structure (Celce-Murcia & Larsen-Freeman, 1983; Hinkel, 2002).

Research Materials

Three lesson plans were developed, one for each of the teaching approaches. The PI lesson plan was based on the PI principles proposed by VanPatten (1996, 2002a, 2004a, 2004b; Lee & VanPatten, 2003; Wong, 2004; Farley, 2005). The DG lesson plan to encompass the dictogloss teaching steps originated by Wajnryb (1990; Shak, 2006; Nation & Newton, 2009), and the TI lesson plan followed the proposal of VanPatten (2000).

The PI group teaching materials included an informational handout on the English past passive and an explanation of structured input activities (SI). These activities were divided into four referential activities and two affective activities. The teaching materials for the DG group showed three stimuli images of a famous person and short texts explaining the images. The texts contained examples of the target grammatical structure. The TI group were given two handouts and six worksheets that explained the past passive voice rules in terms of the form, meaning and use dimensions.

The lesson plans and teaching materials were verified by a panel of EFL/ESL specialists. The materials were later piloted with a group of students, drawn from another public university, who had similar characteristics to those in the original pool of the participants.

Research Instruments

Research instruments for the current study consisted of a pre-test, an immediate post-test and a delayed post-test.

These tests all consisted of two parts. The first part contained 10 interpretation questions, and the second part contained 10 written production questions. All three tests were in parallel in terms of the number of items, length of time to complete, and format, but the test items were switched in order to avoid students' learning effects.

The interpretation questions were designed to assess the students' comprehension abilities. In each test, there was an interpretation section, comprising five sentence-level interpretation questions, each with a leading stimulus question, five grammatical-judgement questions, and a written production section comprising a section with five sentence level production test sentences, and a discourse level section. In this way, the students understanding of active or passive voice was variously tested.

In the interpretation section, each stimulus question had two associated but paraphrased sentences of similar meaning, indicated as *A)* or *B)*. The students were required to interpret the meaning of each of the associated sentences and mark the sentence which they thought had the same meaning as the stimulus sentence, indicating if they comprehended who was the patient or agent. The score focused on accuracy and graded with 1 mark given for each correct answer.

For the grammatical judgement questions, the learners were asked to indicate if they considered whether or not the sentences in each pair had the same or different meaning. The scoring procedure was administered according to discrete item points and graded with 1 mark for each correct answer. The same interpretative questions were used for all three tests. However, the test items and alternatives were switched by means of randomisation to avoid students' memorization.

The written production questions were constructed to gauge learners' language production skills. The questions were categorized into five sentence-level production questions and discourse-level production questions. Three of the five sentence-level production questions contained the target structures, and the other two were distracters. The students had to determine whether the sentences were active or passive and choose the correct structure. With respect to form and meaning of the English verb to *be* passive, the scoring procedure was administered by allocating 1 mark for each correct answer. For the discourse-level production questions, the students were required to write sentences according to the stimulus pictures using the given words. They needed to build up sentences using the passive voice to express their writing ability. Accurate usage was emphasized and was graded as 1 mark for a correct response. The score did not consider mechanical errors such as punctuation marks or grammatical structures. These errors were beyond the scope of the English past simple passive. The content of each of the three tests, and lists of nouns and verbs given, were different but were in parallel with respect to test format and number of required passive sentences.

To establish validity, three experts reviewed and evaluated the tests, and the level of congruence indicator of all three experts was 1, indicating that the original pool of items was appropriate (Osterlind, 2006). The three experts also modified the test items in terms of language and vocabulary usage, and these modifications where considered necessary.

To establish reliability, the original pool of items, both interpretative questions (30 items) and written production questions (5 items), was first trialled on 135 English-major freshman students in three separate classes at another public university in northern Thailand. The test scores from the trial using the original pool of items were calculated by using the Kuder Richardson formula 20 (KR-20) and Whitney and Sabers formula (Whitney & Sabers, 1970) to examine the level of difficulty (p) and the power of discrimination (r). For the written production questions, all five items were feasible. Three items were chosen because they revealed a high power of discrimination (0.63, 0.71 and 0.73). The reliability of the 30 multiple choice items, which included 20 interpretation questions and 10 sentence level production questions, was 0.50. The reliability of the 5 discourse level production questions was 0.87.

Pilot Study

The pilot study was trialled with the 135 students in order to examine their validity, reliability, and practicality before the commencement of the study. It took two weeks to cover all research procedures. All the research materials and instruments were included in this study. Following the pilot testing, the effectiveness and feasibility of

the research instruments were determined by means of statistical analysis and the research material and research instruments were fine-tuned appropriately.

Data Collection Procedures

The data collection procedures occupied the second half of the first semester of the 2014 academic year, a total of eight weeks. This period included pre-testing and post-testing. The three classes were taught by the researcher at the students' usual class times, in one two-hour class and one one-hour class per week. An informed consent form approved by the Naresuan University Institutional Review Board was explained to the students and signed by them prior to their participation. The one hour pre-test was administered two weeks before the instructional period. Scores from the pre-test were used to determine that the level of language proficiency of all the students was equivalent. The participants were then divided by means of a semi-randomized procedure into the processing instruction group (PI: n= 29), the dictogloss group (DG: n=29) and the traditional instruction group (TI: n=37). The three groups were taught according to the theoretical frameworks and teaching steps underpinning PI, DG, and TI based on the designed lessons plans for three hours. Post-testing was administered for one hour immediately following. The students then pursued regular classes for five weeks at which time the delayed post-testing was done.

The DG group activity differed from the PI and TI groups in that the students worked in dyads of mixed ability based on the students' pre-test scores. According to Storch and Aldosari (2013), the optimal dyad that works best for form-focused instruction must be a mixed level of language proficiency pairing (H-L).

Results

Research Question 1

The results from the interpretation task and the written production task for research question 1, which investigated the effects of teaching grammar through PI, DG, and TI on the students' acquisition of the English passive, are presented below.

Results from the Interpretation Task

Table 2 below shows means, standard deviations, ANOVA from the interpretation task pre-test, immediate post-test and delayed post-test.

Table 2: Means, Standard Deviations, and ANOVA of All Groups for the Interpretation Task

Group	n	Pre-test		Immediate Post-test		Delayed Post-test		F	Sig.
		M	SD	M	SD	M	SD		
PI	29	8.59	1.24	9.38	.94	9.34	.76	5.79	.00*
DG	29	8.97	1.08	9.34	.81	9.28	.75	1.47	.23
TI	37	9.11	.90	9.54	.73	9.62	.54	5.12	.00*
F		1.99		.54		2.41			
Sig.		.14		.58		.09			

*p<.05

Table 2 shows the results for the interpretation task of the PI, DG, and TI groups. When considering the mean scores across the three tests for each group, we can see that the mean scores of the PI and TI groups increased from the pre-test (PI = 8.59, TI = 9.11) to the immediate post-test (PI = 9.38, TI = 9.54). Also, the mean scores of the PI group slightly decreased and the mean scores of the TI group slightly increased from the immediate post-test (PI = 9.38, TI = 9.54) to the delayed post-test (PI = 9.34, TI = 9.62). The ANOVA results also confirmed a significant difference among the mean scores of the PI group and the TI groups (PI: F (2, 84) = 5.79, p = .00; TI: F (2, 84) = 5.12, p = .00). The mean scores of the DG group, on the other hand, did not differ significantly across the three tests.

A post-hoc Scheffé test performed to examine which tests of the interpretation task of the PI and TI groups demonstrated statistically significant differences at the .05 level. The results for the PI group showed that the mean scores for immediate post-test and delayed post-test were both significantly higher than that of the pre-test (Pre-test vs. Immediate post-test: M_{Diff}= - .79*, SE = .26, p = .01; Pre-test vs. Delayed post-test: M_{Diff}= - .75*, SE = .26, p = .01). The results indicated that the PI instruction effectively helped the students improve their performance on the interpretation task of the past simple passive.

The Scheffé test results further revealed that, for the TI group, the mean scores for immediate post-test and delayed post-test were both significantly higher than that of the pre-test (Pre-test vs. Immediate post-test: M_{Diff}= - .43*, SE = .17, p = .04; Pre-test vs. Delayed post-test: M_{Diff}= - .51*, SE = .17, p = .01). The results indicated that the TI instruction effectively helped the students improve their performance on the interpretation task of the past simple passive.

Overall, the results from the interpretation task show that the PI, DG, and TI instruction approaches all had a positive effect on the students' acquisition of the English past simple passive, demonstrated in the gains made from the pre-test to the immediate post-test. However, there is a significant improvement from the students in the PI and TI groups, but not in the DG group, suggesting that the PI and TI instructions are more effective than the DG instruction.

Results from the Written Production Task

Table 3 shows means, standard deviations, ANOVA results from the written production task pre-test, immediate post-test and delayed post-test.

Table 3: Means, Standard Deviations, and ANOVA of All Groups for the Written Production Task

Group	n	Pre-test		Immediate Post-test		Delayed Post-test		F	Sig.
		M	SD	M	SD	M	SD		
PI	29	7.72	1.75	8.79	1.11	8.90	1.01	6.87	.00*
DG	29	7.76	1.74	8.03	1.89	8.79	1.08	3.19	.04*
TI	37	8.30	1.97	9.03	1.11	9.11	1.04	3.55	.03*
F		1.03		4.28		.78			
Sig.		.35		.01*		.46			

*p <.05

Table 3 displays results for the written production task of the PI, DG, and TI groups. We can see that the mean scores of the three groups increased considerably from the pre-test (PI= 7.72, DG = 7.76, TI = 8.30) to the immediate post-test (PI = 8.79, DG = 8.03, TI = 9.03). There was a minimal increase from the immediate post-test to the delayed post-test (PI 8.79-8.90; TI 9.03-9.11). In the DG group, there was a significant increase between the immediate post-test and the delayed post-test (DG 8.03- 8.79). The ANOVA results further confirmed a significant difference among the mean scores of the three groups (PI: F (2, 84) = 6.87, p = .00; DG: F (2, 84) = 3.19, p = .04; TI = F (2, 84) = 3.55, p = .03).

A post-hoc Scheffé test revealed that the mean scores of all three groups in both the immediate post-test and delayed post-test were significantly higher than that of the pre-test (Pre-test vs. Immediate post-test: M_{Diff}= -1.07*, SE = .35, p = .01; Pre-test vs. Delayed post-test: M_{Diff}= - 1.17*, SE = .35, p = .00). Of significance is that the results, as shown in Table 2, indicate that the TI instruction very effectively helped the students improve their performance on the written production task.

The Scheffé test results for the DG group surprisingly revealed that only the mean score for the delayed post-test was significantly higher than that of the pre-test (M_{Diff}= 1.03*, *SE* = .424, *p* = .05), while there was no significant improvement of mean scores from the pre-test to immediate post-test.

The Scheffé test results for the TI group revealed that the mean scores for the immediate post-test and delayed post-test were both significantly higher than that of the pre-test (Pre-test vs. Immediate post-test: M_{Diff}= - .73*, *SE* = .335, *p* = .09; Pre-test vs. Delayed post-test: M_{Diff}= -.81*, *SE* = .33, *p* = .05). The results indicated that the TI instruction effectively helped the students to improve their performance on the written production task.

When comparing the difference in mean scores between the groups on written production task (Table 3), we can see that the TI group had the highest mean scores on the immediate post-test (9.03) and the delayed post-test (9.11), followed by the mean scores of the PI on the immediate post-test (8.79) and the delayed post-test (8.90) and the DG groups on the immediate post-test (8.03) and the delayed post-test (8.79). The one-way ANOVA analysis of the written production task revealed statistically significant differences only among the three groups on the immediate post-test (*F* (2, 92) = 4.28, *p* = .01).

A Scheffé test was conducted to examine which groups demonstrated statistically significant differences at the .05 level on the immediate post-test on written production. The mean score of the TI group was significantly higher than that of the DG group (M_{Diff} = .99*, *SE* = .348, *p* = .020), indicating that the TI instruction was more effective than the DG instruction in improving the students' performance of the English past simple passive on the written production task.

These results from the written production task showed that the PI, DG, and TI instruction all had a positive effect on the students' learning of the English past simple passive. The students who received these instruction in any of these made some gains from the pre-test to the immediate post-test and maintained their performance in this task over time. However, a considerable improvement from the students in the PI and TI groups was observed, but not in the DG group. This suggests that the PI and TI instructions were more effective than the DG instruction for the written task.

Research Question 2

Research question 2 investigated the students' retention of the past simple passive taught by PI, DG, and TI.

Results from the Interpretation Task

When comparing the difference in mean scores between the groups on the interpretation task (Table 2), the TI group performed best on the immediate post-test (9.54) and the delayed post-test (9.62), while the PI and the DG groups performed

almost equally on the two tests (Immediate post-test: PI = 9.38, DG = 9.34; Delayed post-test: PI = 9.34, DG = 9.28).

The Scheffé test results for the PI group revealed that there was no statistically significant difference between the mean scores of immediate post-test and delayed post-test (M_{Diff}=- .13, SE = .35, p = .95). The results indicated that the PI instruction helped the students maintain their performance on the interpretation task of the English past simple passive over time.

For the DG group, the ANOVA results (shown in Table 2), revealed no statistically significant difference between the mean scores across the three tests on the interpretation task. The results also showed that there was no statistically significant difference between the immediate post-test and the delayed post-test. This means that the DG instruction helped the students maintain their performance on interpretation task of the English past simple passive over time.

The Scheffé test results for the TI group revealed that there was no statistically significant difference between the mean scores of immediate post-test and delayed post-test (M_{Diff}= -.08, SE = .17, p = .89). The results indicated that the TI instruction helped the students maintain their performance on the interpretation task of the English passive over time.

The results from the interpretation task showed that there was no difference in the students' retention of the English passive taught by PI, DG, and TI techniques. However, the students in each group were able to retain their interpretation ability over time.

Results from the Written Production Task

Contrasting the mean scores between the groups on the written production task, as shown in Table 3, the TI group had the highest mean scores on the immediate post-test (9.03) and the delayed post-test (9.11), followed by the mean scores of the PI on the immediate post-test (8.79) and the delayed post-test (8.90) and the DG groups on the immediate post-test (8.03) and the delayed post-test (8.79). However, when a one-way ANOVA was carried out for the written production task, it did not show a significant difference of mean scores among the three groups on the delayed post-test (F (2, 92) = .78, p = .46).

The Scheffé test results for the PI group also revealed that there was no statistically significant difference between the mean scores of immediate post-test and delayed post-test (M_{Diff}=-.10, SE = .35, p = .95). The results indicated that the PI instruction helped the students maintain their performance on the written production task of the English passive over time.

The Scheffé test results for the DG group also revealed that there was no statistically significant difference between the mean scores of immediate post-test and delayed post-test (M_{Diff}=-.76, SE = .42, p = .20). This result indicated that the DG

instruction helped the students maintain their performance on the written production task of the English passive over time.

The Scheffé test results for the TI group showed no statistically significant difference between the mean scores of immediate post-test and delayed post-test (M_{Diff}=-.08, SE = .33, p = .97), indicating that the TI instruction helped the students maintain their performance on the written production task of the English passive over time.

The results from the written production task showed that there was no difference in the students' retention of the English passive taught by PI, DG, and TI techniques. However, the students in each group were able to retain their writing ability over time.

Discussion

The findings for both Research Questions 1 and 2, suggest that the PI and TI groups performed better than the DG group and that the TI group performed best among the three groups on interpretation and written production tasks. These findings support many previous studies that share similar aims (e.g. Mégharbi, 2007; Qin 2008; Russell, 2009; Abbasian & Minagar, 2012; Mystkowska-Wiertelak & Pawlak, 2012). However, they are inconsistent with studies by, for example, VanPatten & Uludag (2011) and Birjandi, Maftoon & Rahemi (2011), which indicated that PI was superior to the control group in the case of interpretation. These findings might possibly be explained according to three main reasons as follows: (1) Explicit Information (EI), (2) Structured Input activities (SI), and (3) the use of drills.

First, EI seems to be an important factor in the PI and TI students' interpretation and written production gains. EI pertains to the detailed explanation of rules containing the target form, which can be presented by either the language teacher or in any handouts used (VanPatten, 2009). The students who studied with the PI technique were initially equipped with EI about the English past simple passive. The TI group also studied English passive rules first before they were asked to build up the passive voice sentences in affirmative, negative and interrogative forms. Therefore, rigid rule explanation at the beginning of PI instruction and throughout TI instruction may be the crucial factor that raises the students' awareness of the passive voice, resulting in their lasting understanding of this grammatical structure and the TI group's satisfactory performance overall.

The value of EI found in the current study is evidently upheld by many studies. For example, VanPatten (2009) reported that the students' interpretation and written production test results on direct object pronouns and word order in Spanish were higher in the class taught by both PI and EI together, than in the class taught by PI only. In this case, EI seems to assist the students in recognizing the rules and verb inflection. Thus, the students were able to attend to the verbs from the input received and simultaneously comprehend form and meaning. VanPatten & Borst (2012) explained that EI also helps

students to understand the meaning of the sentences by allowing them to process syntactic structures and use default strategies with the target forms. In terms of durability of knowledge, Seliger (1975) and Radwan (2005) reported that students' linguistic knowledge was durable over time after the students received explicit teaching. Thus, explicit instruction can bring about explicit knowledge. This may contribute to grammatical development and the retention of grammatical knowledge.

Unlike the PI and the TI groups, the students in the DG group were not provided with explicit explanation of the English passive while performing tasks. This possibly explains why the DG group had the lowest written task score among the three groups on the immediate post-test. This issue is supported by Gallego's (2010) study, which found that the DG group with rule explanation yielded greater gains than the DG group without rule explanation.

Second, an explanation why the PI group performed better than the DG group and that the students in the PI group could retain their passive voice knowledge over time could be related to structured input activities (SI). According to VanPatten (2002a), Benati & Lee (2010), SI is one of the components of PI consisting of referential and affective activities. Referential activities encourage learners to pay attention to target grammatical rules in order to perceive meaning. Learners respond to answers that may be either right or wrong. Affective activities require learners to express their opinions and feelings. Learners are provided with activities that they can incorporate into real world contexts. In these activities, there are no correct or incorrect answers. SI is related to PI in that PI encourages learners to deal with problematic operations and presents beneficial activities which assist learners in overcoming challenges. Once learners received explicit information, they tend to understand why particular utterances are problematic. From that point on, structured input activities will aid learners to turn away from default strategies (VanPatten & Uludag, 2011).

In the current study, the PI students had opportunities to engage in SI, including referential and affective activities, without performing language production at all. The purpose of SI, according to the First Noun Principle (FNP), is to coerce the students' attention away from considering the first noun or pronoun they encountered as the agent of the action (Barcroft & Wong, 2013). It can be considered that SI may encourage the students to form form-meaning maps, using their initiative, thus enabling them to link the target forms to their relevant meanings.

VanPatten & Fernández (2004) and Marden (2006) point out that SI can lead to positive effects both in the short-term and the long-term. In the current study the effects of PI also proved durable five weeks after instruction and thus strengthened the conclusion of the durability effect of PI on the acquisition of the passive voice.

Third, the use of drills is an important characteristic of the TI technique, and in this study, drills seemed to enhance the students' recognition and understanding of the active and passive forms and enabled the students in the TI group to perform better than the other groups in the interpretation and written production tasks. Drills in the current

study are categorized into mechanical and meaningful drills. Mechanical drills refer to controlled learning practice which requires the students to memorize the target rule and respond to the given question without understanding. Meaningful drills refer to controlled learning practice which requires the students to understand the given questions and later provide an accurate answer. They need to understand both the form and meaning in order to overcome practice activities (Paulston & Bruder, 1976; Cook, 2008). The benefits of using drills to enhance language learning are attested, and it is generally accepted that drills are still viable as a method in teaching grammar (Khodamoradi & Khaki, 2012; Shinya & Ikhsan, 2013).

With respect to the result of the DG technique, which was found to be less effective than the PI and TI techniques in the current study, it is possibly due to the lack of pre-task modelling. Pre-task modelling is an activity that helps students become accustomed to an unfamiliar teaching process and can facilitate students' learning development (Kim & McDonough, 2011). The current research was carried out without modelling how to perform the DG tasks because of the time constraint of only three hours teaching time. The students needed more practice opportunities to become better acquainted with the DG technique, which was not practicable under the circumstances.

Nonetheless, the DG technique was found to help the students to retain their understanding of the English passive on both interpretation and written production tasks. Following are two major possible reasons that explain the durability effects of DG instruction: (1) the hypothesis formulation and testing function of output, and (2) the notion of noticing.

First, the hypothesis formulation and testing function of output may also help clarify the durability effect of DG instruction. This may be discussed together with the merit of feedback. Campillo (2003, 2006) posited that there are benefits in receiving implicit feedback from the teacher and explicit feedback from peers. These benefits lead to increased student retention of linguistic knowledge. In the current study, peer feedback was incorporated into the text reconstruction step. It allowed the students to modify, confirm, and reject the hypotheses that they had formulated about the past simple passive, as they attempted to clarify ideas and negotiate for meaning. The repeated clarification and negotiation that occurred during the text reconstruction step thus helped strengthen students' understanding of the English passive and enable them to retain knowledge about this target grammatical structure for a long time, according to the five-week delayed post-test.

The second reason that explains why the DG group was able to retain their knowledge of the passive voice is related to the notion of noticing, which refers to students' conscious learning mechanism in examining a linguistic form (Schmidt, 1990, 1994, 2010). In the current study, noticing may have been derived from the learning process of DG during Step 3 (Listening and Note-taking) and Step 4 (Text Reconstruction). This allowed the students to develop conscious awareness of the passive voice and possibly encourages them to notice the passive structures in the reconstruction text. Kuiken & Vedder (2002) specified that students' negotiation during

Step 4 involves them in extensive use of metatalks (or LREs), which ultimately leads to noticing. Swain (1995) and Shak (2006) also explain that students' negotiation during the text reconstruction step in dictogloss enables them to notice the gap between the grammatical forms they produce and the grammatical forms they should produce. This leads to noticing, and noticing influences the students learning and acquisition of the passive voice.

Other Possible Explanations for the Results from Research Questions 1 and 2

Regarding Research Question 1, one result was that the DG group's delayed post-test score on written production task was significantly higher than the pre-test score. This finding contradicted the expectation that the immediate post-test score would be higher than the pre-test score. This was possibly due to the fact that as the students had never experienced the DG instruction before in their past education and they were unfamiliar with all the processes involved and needed longer time to digest information they learned in the class.

For Research Question 2, there was no difference in the students' retention of the English passive taught by PI, DG, and TI. This signifies the students' ability to retain their understanding of the English passive over time. This phenomenon may be addressed in terms of the high test results from pretesting. That is, the three groups were equal at the outset of the study on interpretation and written production tasks, and the pretesting revealed that the students' interpretation and written production abilities on the English passive were rather high. This may be attributed to the students having background knowledge of the English past simple passive from their past education, so the grammatical structure chosen for the students to study was not what this group of students find challenging or problematic. Thus, this can be seen as a possible reason why the students in the three groups did not differ significantly on the students' retention.

The final observation of the research findings regarding Research Questions 1 and 2 was that the mean scores of the TI group were higher than those of the PI and DG groups on all tests. These findings were again counter to expectation. The PI and DG instructions were expected to be more rewarding to the students than the TI instruction, as they are widely recognized as promising teaching techniques for developing students' grammatical competence (Van Patten & Uludag, 2011; Birjandi, Maftoon & Rahemi, 2011; Uludag & Van Patten, 2012). The explanation of these unexpected findings may be related to the fact that the PI and DG instructions involve many steps, but there was insufficient time available to comprehensively explain all these steps. The PI technique contains three main steps: Explicit Information (EI), Input Processing Strategies (IP), and Structured Input Activities (SI). The DG technique contains six steps: preparation, listening for meaning, listening and note-taking, text reconstruction, text comparison, and writing and wrap-up. Since the students in this study had only three hours of class time to study the past simple passive, the time allocated was insufficient to acquaint the students with the new teaching techniques. Therefore, the

students in the PI and DG groups were not able to score as highly on the tests as the students in the TI group, who studied with the type of instruction with which they were most familiar.

Pedagogical Implications

From this analysis, there are two pedagogical implications that can be deciphered. The first pedagogical implication is related to choosing a suitable text for teaching grammar. For a suitable text, the content needs to be interesting to students. This can be done by using text that has relevance to their lives as used in this study. If an authentic text is chosen, it should be simplified to fit the students' level of language proficiency and maximize the students' opportunities to learn the target structure. The stimuli images need to be vivid, interesting, and relevant to the given text to arouse students' attention at the beginning step. Additionally, the text should contain a high frequency of the target grammatical structure to help students to notice the target forms easily.

The second implication is related to using the DG technique to teach grammar to EFL students. Thai students find it difficult to listen to and then reconstruct the spoken text. It is suggested that the teacher allow the students to listen to each text more than twice and extend the period of time for the text reconstruction step. The teacher's decision should be based on a careful consideration of students' proficiency levels and time allocated for class activities.

Suggestions for Future Research

From the discussion on the comparison of teaching the English past simple passive through PI, DG, and TI, it can be suggested that the challenge for future research is to investigate the effects of PI, DG, and TI on ESL/EFL students with various language proficiency levels. However, another area of research is to examine the relationship between language learning development and attitudes in the PI, DG, and TI classes. This investigation will divulge the effects of cognitive and affective factors on language acquisition. Qualitative research may be conducted to extend knowledge about learning strategies that students use during the PI, DG, and TI techniques. As is stated in the discussion, many of the cited research was about teaching English in very different language cultures; Spanish (a European language with roots in Latin), Farsi (Spoken by the Iranian students, with its roots in Arabic), Thai and Chinese (Asian languages with very different roots and linguistic structures). The impact and influence of these widely varying L1's would seem to have an effect on both the understanding of English syntax and grammar, and on the EFL teaching styles. An analysis of these influences and their impact on the success of applying PG, TI and DG seems an interesting and fruitful line of research, for the future.

Conclusion

As stipulated at the beginning of this paper, the purposes of the study were to compare the effects of teaching grammar through processing instruction (PI), dictogloss (DG) and traditional instruction (TI) in assisting students' attainment of the English passive. This included studying the students' retention over time of the subject matter taught by PI, DG, and TI. The results from the interpretation task, and written production task revealed a significant improvement from the students in the PI and TI groups, but not in the DG group, suggesting that the PI and TI instructions were more effective than the DG instruction. The results also demonstrated no difference in the students' retention of the English passive taught by PI, DG, and TI, which means the students in each group were able to retain their understanding of the English passive over time. PI, DG, and TI contribute to the students' learning achievement and seem successful in promoting understanding of English grammar especially for Thai students in grammar-focused language classes. The current study can certainly inform Thai teachers of English, particularly at the university level, on the appropriate and best grammar instruction methods congruent with Thai students' language proficiency.

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