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THE EFFECTS OF PROCESSING INSTRUCTION AND RE-EXPOSURE ON INTERPRETATION DISCOURSE LEVEL TASKS: THE CASE OF JAPANESE PASSIVE FORMS

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DECLARATION

I certify that this work has not been accepted in substance for any degree, and is not concurrently being submitted for any degree other than that of Doctorate of Philosophy being studied at the University of Greenwich. I also declare that this work is the result of my own investigations except where otherwise identified by references and that I have not plagiarised another's work.

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Date:

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ABSTRACT

The present study was conducted to investigate possible interpretation discourse level effects of processing instruction and re-exposure to processing instruction on the acquisition of a specific feature of the Japanese linguistics system: namely Japanese passive forms. Processing instruction is a type of focus on form which is framed around the input processing theoretical framework. In order to carry out this investigation two separate experimental studies were conducted. All participants were native English speakers and were randomly assigned to two groups. In both experimental studies, one group received processing instruction which involved an explicit instruction component and structured input practice directed at altering the way L2 learners process input; the other group was used as a control group and received no instruction. Interpretation and production sentence level tasks, and discourse level tasks were used to measure performance after a one day instruction. A pre-test/post-test design was adopted to collect data in both studies. In the second experimental study, the processing instruction group received a re-exposure treatment between the post-test and the delayed post-test.

Based on previous research carried out on the effectiveness of processing instruction, it was hypothesised that processing instruction would have positive effects on the accuracy with which subjects interpreted and produced sentences containing Japanese passive forms. A further hypothesis was that the effects of re-exposure to the processing instruction treatment (after the first post-test) would further improve subjects ability to interpret and produce sentences containing Japanese passive forms.

A set of two hypotheses were formulated on possible interpretation discourse effects for processing instruction. It was hypothesised that the group receiving processing instruction would improve in its ability to interpret discourse (guided recall: dialogue and story version) containing Japanese passive forms, and that learners in this group, receiving

re-exposure to the processing instruction treatment would further improve in their ability to interpret discourse containing Japanese passive forms.

Overall the statistical analyses carried out on the raw scores of all the measures used supported the four hypotheses of this study. The results obtained in this research provide clear evidence that processing instruction has positive effects on the acquisition of Japanese passive construction. The present study showed that processing instruction was successful in altering the way in which learners processed the input and its effects had also an impact on the way learners produced Japanese passive construction forms. The main findings of the present study also provided new evidence on the effectiveness of processing instruction in improving learners' performance on interpretation discourse level tasks. In addition to this, it also provides new evidence that learners receiving re-exposure to the processing instruction treatment between a post-test and a delayed post-test can further improve in their ability to interpret and produce the target feature at sentence level and interpret the target feature at discourse level.

The results obtained in the two studies have implications at two levels. At the theoretical level this research provides further support for the role that input processing plays in SLA. At the pedagogical level it demonstrates the effectiveness of processing instruction on the acquisition of a different linguistic feature of the Japanese grammar system (passive forms), not only on an interpretation and production sentence level task but also on an interpretation discourse level task. It also demonstrated the important role of a re-exposure instructional treatment.

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KEY TERMS AND THEIR ACRONYM

ANOVA	Analysis of variance
C	Control
DG	Dictogloss
EI	Explicit Information
FNP	First Noun Principle
L2	Second Language
MOI	Meaning-based Output Instruction
NCI	Negative informal commands
OSV	Object Subject Verb
OV	Object Verb
OVS	Object Verb Subject
P1	Primacy of Meaning Principle
P2	Fist Noun Principle
PI	Processing Instruction
PID	Preterite/imperfect distinction
SD	Standard deviation
SI	Structured Input
SLA	Second Language Acquisition
SOV	Subject Object Verb
SVO	Subject Verb Object
TI	Traditional Instruction
VSO	Verb Subject Object

INTRODUCTION

Background to the research

In the last thirty years, we have witnessed an evolution in classroom research investigating the effects of different types of grammar instruction in second language acquisition. (See Nassaji and Fotos, 2004 for a full review). This is partly because more studies have been conducted to systematically describe how instruction is operationalised in the classroom and partly because these studies have directly addressed the question as to whether particular types of focus on form (Ellis, 1991) are more beneficial than others. Within this research framework another relevant question regarding the role of grammar instruction is whether it would be more effective when provided via one modality versus another (i.e. comprehension vs. production).

VanPatten has argued that a type of focus on form, which is called 'processing instruction', which help L2 learners to process taget linguistic feature via comprehension practice, might be more effective than that which requires learners to produce language too prematurely. Processing instruction was created by VanPatten (1996) and it has been proved to be an extremely effective approach to grammar instruction as it provides a more direct route for L2 learners to convert input to intake.

The relative effects of processing instruction have been measured through as series of empirical studies. The overall findings (see Lee and Benati 2010 for a full review) of these classroom studies, which will be reviewed in Chapter Three, have indicated that L2 learners receiving this type of grammar approach benefit in their ability to process input (interpretation tasks) as well as being able to access the target feature when performing production tasks. Most of the studies within the processing instruction research framework have investigated the effects of this input-based approach to grammar instruction utilising sentence level interpretation and production tasks. A small number of studies have been conducted to investigate the effects of processing instruction on discourse level production tasks (VanPatten and Sanz, 1995; Benati, 2001; Cheng, 2002, 2004; Sanz, 1997, 2004).

None of the previous studies have attempted to measure the effectiveness of processing instruction using discourse level interpretation tasks.

A small number of studies have also addressed possible short and long-term effects for processing instruction (.None of previous studies have investigated the possible role of re-exposure to this type of grammar instruction.

The present study considers two levels of empirical and theoretical research in language acquisition: (i) input processing theory which has sought to obtain a better understanding of why and how instruction makes a difference in second language acquisition; (ii) classroom studies conducted to investigate the effects of processing instruction at sentence and discourse level.

Aims of the present study

Based on the input processing theoretical framework and on the findings of theoretical research on the effects of processing instruction this study seeks to broaden the debate around the role and effects of processing instruction. The present study extends previous research on the effects of processing instruction by measuring possible interpretation discourse level effects. Additionally this study investigates the relative effects of multiple exposure to instruction. In the light of the findings of previous studies and with the intention to add some value to this particular field, the specific aim of the present study is threefold:

1. to find some empirical evidence to support the hypothesis that processing instruction has positive effects on the acquisition on a different linguistic feature of the Japanese grammar system (passive forms) and measure these effects at sentence level through interpretation and production tasks. To this end, this study also seeks to provide further evidence, as to whether one way of influencing SLA may be altering the means by which L2 learners process input;

2. to measure for the first time interpretation discourse level effects of processing instruction on the acquisition of Japanese passive forms utilising guided recall tasks (dialogue and story-based discourse level tasks);

3. to measure the possible effects of re-exposure to the instructional treatment at sentence and discourse levels.

In the attempt to address the main aims of the present research two classroom experiments were conducted[1] .

Organisation of the thesis

The thesis follows a logical progression and it is organised as follow:

In Chapter one, VanPatten's input processing model (VanPatten 1996, 2004, 2007) is examined. Input processing is the theoretical background in which this study is framed. The two main processing principles and each of the corollaries are reviewed. At the end of this chapter the theoretical implications for instruction in a processing framework will be addressed.

In Chapter two, the main characteristics of processing instruction are presented. The three key components of processing instruction are described and guidelines for developing structured input activities are presented.

In Chapter three, previous empirical studies investigating the role and effects of processing instruction are presented and reviewed.

In Chapter four, the motivation of the study, research questions, and hypotheses are presented. The research design of this study and the procedures used for data collation and analysis are presented.

[1] The results of the first classroom experiment presented in this thesis have been reported in chapter five (Benati, A., Lee, J., and Hikima, N.) in Benati, A., Lee, J. (2010) *Processing Instruction and Discourse*. Continuum: London.

In Chapter five, statistical analyses of the results of the two experiments conducted to investigate the effect of processing instruction on the acquisition of Japanese passive forms are provided and summarised.

In Chapter six, the findings of the present study are interpreted and discussed. This chapter includes a discussion of the theoretical and pedagogical implications, and addresses some limitations of the present research. Suggestions for further research are also provided.

The Appendices contain the consent form used in the present study, the pack of teaching materials, the four assessment tasks, and a table of the verbs used in the experiment.

CHAPTER ONE: THE THEORY OF INPUT PROCESSING

Introduction

In Chapter One the main characteristics and the principles of a theory in second language acquisition called input processing will be presented. Research within the input processing framework (VanPatten, 1996) has attempted to address the possible relationship between instruction and how second language (L2) learners process the input data. Input processing theory is concerned with those psycholinguistic strategies and mechanisms by which learners derive intake from input. The purpose of this chapter is twofold:

1) firstly, to illustrate the characteristics and the processing principles/strategies and its corollaries of the input processing theory;

2) secondly, to provide some evidence for the principles/strategies used by L2 learners to process input.

1.1 Input processing theory

Many scholars (Gass, 1997; Caroll, 2001; VanPatten, 2004) have agreed that input is a necessary and vital factor for the acquisition of a L2. Acquisition is seen by these scholars as the development of an implicit, unconscious system. Gass (1997: 1) considers input as a key variable in second language acquisition and has argued that ‘‘no model of second language acquisition does not avail itself of input in trying to explain how learners can create second language grammars’’. Input provides the primary linguistic data for the creation of an implicit unconscious linguistic system. When learners receive input, they are feeding their developing system with the data needed to start the process of acquisition (VanPatten, 1996).

Input processing is a psycholinguistic process which is primarily concerned with how L2 learners initially perceive and process linguistic data in the language they hear or read. The psycholinguistic aspects of input and input processing have been investigated from an

information processing perspective. At the heart of this theory is the concept of the brain as a central and limited processor of information. Schneider and Shiffrin (1977) have argued that our brain can only process a very limited amount of information. This is due to a series of factors: role of working memory; access to stored knowledge; and attentional capacity. In the nineties, information processing theory was applied to second language acquisition as input processing theory (McLaughlin, 1987; VanPatten, 1990). Input processing is one of the sets of processes in VanPatten's (1996) model of acquisition (see Figure 1.1). According to VanPatten (1996), only a small portion of the input that L2 learners are exposed to is processed (see Figure 1.1). This is due to learners' processing limitations (process I) and processing problems. The portion of input processed is called intake (it is what learners have perceived and processed in the input through their internal processors). The second stage of VanPatten's second language acquisition model (process II) involves a series of processes for incorporation of intake into the developing system. These processes are called 'accommodation' and 'restructuring'. Accommodation is the process of accepting a form or structure into the developing system after learners have mapped that form or structure with a particular meaning during the first phase. Restructuring is the process of integrating the new form or structure into learners' developing system which will cause a change in that system. The final stage in this model (process III) consists of a set of processes (access and production strategies) that acts on the acquired L2 system and that determines what is available at a given time for productive use. For the purpose of this study, we will focus primarily on the first process of VanPatten's model of acquisition. In VanPatten's model of second language acquisition, only part of the input is passed through to the developing system as intake and eventually made available for output by the learner. Changing the way L2 learners process input and enriching their intake might have an effect on the developing system that subsequently should have an impact on how learners produce the L2.

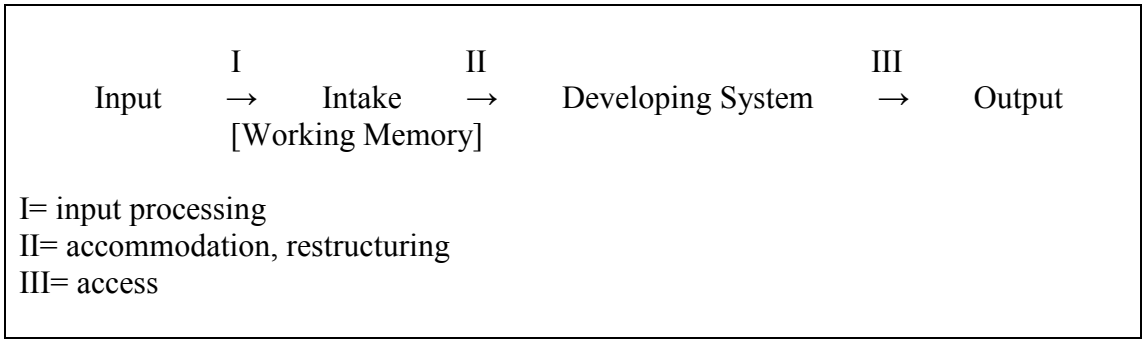


Figure 1.1 VanPatten's model of second language acquisition (Adapted from VanPatten, 1996)

In his model, the role of working memory is crucial since some of the principles of his model are predicated on a limited capacity for processing. VanPatten (1996) argues that humans develop mechanisms/strategies that allow them to selectively attend to incoming stimuli. Without such mechanisms there would be information overload. According to VanPatten (1996:7), L2 learners process input as they attempt to comprehend the message contained in it and use the input to make form-meaning connections. A form-meaning connection refers to the correspondence between the formal properties of language and the meaning they encode. For example, the verbal ending *-ed* in English is a grammatical form that encodes the meaning 'pastness' (or 'not present'). When learners process input, they filter the input which is reduced and modified in a new entity called 'intake'. Only part of the input L2 learners receive is processed and becomes intake. This is mainly due to processing limitations. Input processing consists of two sub-processes:

- making form-meaning connections;

- parsing.

In the case of form-meaning connections, L2 learners must be able to connect a form with its meaning in the input they receive. The morpheme *–ed-* in the end of the verb in English refers to an event in the past.

In the case of parsing, L2 learners must be able to determine, for example, which the subject is and which the object is in a sentence they hear or read (mapping syntactic structure into the sentence).

Research on input processing has attempted to describe what linguistic data learners attend to during comprehension, which ones they do not attend to, what grammatical roles learners assign to nouns, how position in an utterance influences what gets processed. In reviewing the results of research within the input processing framework, VanPatten (2004) has identified two key principles, each with several corollaries (see Table 1.2 and Table 1.3). The two main principles are:

Principle 1 (P1). The Primacy of Meaning Principle. Learners process input for meaning before they process it for form.

Principle 2 (P2). The First Noun Principle. Learners tend to process the first noun or pronoun they encounter in a sentence as the subject/agent.

In the first principle, VanPatten (2004:7) has asserted that during input processing, L2 learners initially direct their attention towards the detection of content words to understand the meaning of an utterance. Learners tend to focus their attention on content words in order to understand the message of the input they are exposed to. In doing so, they tend to skip the grammatical form.

In the second principle, VanPatten (2004:15) has stated that L2 learners tend to process the first noun or pronoun they encounter in a sentence as the subject or agent. One of the consequences of this is that it will lead L2 learners to misinterpret the meaning of an utterance more importantly is that they are making uncorrect form-meaning connections. Each principle and corollary will be presented in the next two sections.

Principle 1 (P1). The Primacy of Meaning Principle.
Learners process input for meaning before they process it for form.

P1a. The Primacy of Content Words Principle. Learners process content words in the input before anything else.

P1b. The Lexical Preference Principle. Learners will tend to rely on lexical items as opposed to grammatical form to get meaning when both encode the same semantic information.

P1c. The Preference for Nonredundancy Principle. Learners are more likely to process nonredundant meaningful grammatical form before they process redundant meaningful forms.

P1d. The Meaning-Before-Nonmeaning Principle. Learners are more likely to process meaningful grammatical forms before nonmeaningful forms irrespective of redundancy.

P1e. The Availability of Resources Principle. For learners to process either redundant meaningful grammatical forms or nonmeaningful forms, the processing of overall sentential meaning must not drain available processing resources.

P1f. The Sentence Location Principle. Learners tend to process items in sentence initial position before those in final position and those in medial position.

Figure 1.2 The Primacy of Meaning Principle. Adapted from VanPatten (2004)

Principle 2 (P2). The First Noun Principle.
Learners tend to process the first noun or pronoun they encounter in a sentence as the subject /agent.

P2a. The Lexical Semantic Principle. Learners may rely on lexical semantics, where possible, instead of word order to interpret sentences.

P2b. The Event Probabilities Principle. Learners may rely on event probabilities, where possible, instead of word order to interpret sentences.

P2c. The Contextual Constraint Principle. Learners may rely less on the First Noun Principle if preceding context constrains the possible interpretation of a clause or sentence.

Figure 1.3 The First Noun Principle. Adapted from VanPatten (2004)

1.2 The Primacy of Meaning Principle and its corollaries

The Primacy of Meaning Principle asserts that L2 learners are driven to look for the message in the input before they look at how the message is grammatically encoded. This view is consistent with the observation of other scholars such as Sharwood-Smith (1993) who has affirmed that L2 learners' attention is directed towards meaning when they are processing input. The main question addressed by VanPatten (1996:18) is: when the L2 learners aim to extract meaning from the input, 'which aspects of the input will aid them?' During subsequent studies it was revealed that L2 learners will use words as the building blocks for meaning, and therefore the real question to be addressed is: what linguistic data do learners attend to during comprehension?

Lee (1987a) provided evidence in support of the Primacy of Meaning Principle through the examination of whether or not and how the Spanish subjunctive would be comprehended by learners who had never been taught it before. In comprehension assessment tasks, learners were required to read a passage, and then recall the passage or answer multiple choice or open ended questions. The results revealed that learners who had

never been instructed in the subjunctive of Spanish were able to extract meaning from the content of the passage. L2 learners processed input in order to obtain meaning.

In the first corollary of the first processing principle (P1) called the Primacy of Content Words Principle (P1a), VanPatten (1996) suggests that L2 learners use content words to grasp the meaning of a sentence. A number of empirical studies (Klein, 1986; VanPatten, 1990; Mangubhai, 1991; Bernhardt, 1992) have provided support for this. In particular, the study of VanPatten (1990) has shown that L2 learners process content words at first when they process input. In his study, the interplay of content words, function words and verb morphology with comprehension in Spanish was investigated. Participants were divided into four groups. The first group listened to the passage only, the second group listened to the passage noticing the target content word, the third group listened to the passage noticing the function word, and the fourth group listened to the passage noticing the verb morpheme. After listening to the passage, participants were required to recall what they had heard. The results revealed that the first and the second groups comprehended the passage equally. In contrast, the third and the fourth groups recalled fewer idea units. These findings support that content words positively interact with comprehension and it is of primary importance during input processing. It really shows that functions negatively interact with comprehension.

To comprehend meaning, L2 learners seek and extract content words first in a sentence because of their limited capacity to process all the elements in a sentence. Elements of a sentence are in competition with each other when L2 learners try to comprehend the meaning of a sentence, and learners have limited capacity to process all the words in the sentence they hear or read at once. The Lexical Preference Principle (P1b) claims that if a lexical item and a grammatical form in the sentence represent the same semantic notions, the form will not be processed because learners tend to focus on the content words to grasp the meaning of the sentence. In Japanese, the verbal inflection *mashita* encodes past as in *ikimashita*. However, this semantic notion is also expressed in

Japanese by words such as *Kinoo* (yesterday) or *Kyonen* (last year). Given that learners, as postulated in the first principle (P1a) are driven to process content words before anything else, they would attend to temporal reference of 'pastness' before verbal inflection of the past tense. In the following sentence in Japanese *Kinoo watashi wa gakko ni ikimashita* (Yesterday I went to school) learners will process the lexical item (*Kinoo*) before the verbal inflection (*mashita)*.

きのう	私 は	学校 に	行きました。
Kinoo	*watashi wa*	*gakko ni*	*ikimashita*
Yesterday	I	to school	went
(lexical item)			(verb morphology)

The sentence above describes a past event. In the sentence, both the lexical item and the verb morphology convey the same meaning (timeframe). According to the Lexical Preference Principle (P1b), learners will tend to rely on the temporal marker over the form to glean semantic information. If L2 learners do not process the grammatical form in the input in order to get meaning, they will not be able to make form-meaning connections and this will cause a delay in acquisition.

A number of studies, from both an empirical perspective (Musumeci, 1989; Lee, Cadierno, Glass and VanPatten, 1997; Rossomondo, 2007) and research into the acquisition of tense (Klein, 1986; Bardovi-Harlig, 1992) have provided evidence to support the Lexical Preference Principle (P1b). In particular, Klein (1986) and Bardovi-Harlig (1992) focused on determining how tense was encoded in the learner's output. Klein (1986) conducted a repetition test using different levels of L2 learners of German. Participants were required to repeat nine German sentences they heard. The result showed that beginner level learners reproduced only content words, while intermediate level learners were able to reproduce the grammatical words to complete the sentences. In the Bardovi-Harlig (1992) study, the preference for time adverbials over verbal morphology in the writing and wording of L2 learners of English was investigated. The result of this

research showed that in the learners' earliest stage, they made sentences in which time adverbials were present but verbal morphology was absent. The main findings from these two studies have indicated that tenses can be encoded via lexical items and expressions, and/or through grammatical forms.

The term used in the P1c, 'meaningful grammatical form' means that a form contributes to the referential meaning of an utterance or a sentence. According to the Preference for Nonredundancy principle (P1c), a redundant form is of less communicative value and tends to be processed later than nonredundant forms. VanPatten (2007) provided an example illustrating why the progressive aspect marker -*ing* "the cat is sleeping" is acquired before the third person singular -*s* "The cat sleeps ten hours every day" in English. The reason is that –*ing* conveys sentence meaning as an event progress, while the third person –*s* does not offer unique information. The former is the sole marker and the later is redundant. Therefore, learners tend to process the nonredundant grammatical form -ing before redundant grammatical form -*s*. In the natural sequence in the acquisition of English, learners acquire the verb morpheme -ing followed by the regular past and third person singular-*s* (Dulay and Burt 1973). "The order of acquisition matches the input processing preference of learners as the latter intersects with communicative value." (VanPatten, 1996: 29). This indirect evidence supports the Preference for Nonredundant Principle (P1c).

In the P1d, VanPatten (1996: 24) suggests that 'it is the relative communicative value of a grammatical form that plays a major role in determining the learner's attention to it during input processing and the likelihood of its becoming detected and thus part of intake." VanPatten has stated that L2 learners prefer processing more meaningful morphology rather than less or nonmeaningful morphology. Communicative value refers to the contribution made to the meaning of an utterance by a linguistic form. In order to establish whether a linguistic form has a low or high communicative value, we need to follow two criteria:

1. Inherent referential meaning

2. Semantic redundancy

In the following Japanese sentence *Kinoo Kyoto ni ikimashita* (Yersterday, I went to Kyoto) the past tense morpheme is a redundant past marker. Furthermore, since *Kinoo* has marked the sentence as past, the past markers on subsequent verbs are also redundant.

Two studies conducted by Bransdorfer (1989, 1991) support the Meaning-Before-Nonmeaning Principle (P1d), as the findings of these two empirical studies have indicated that redundant grammatical forms and nonmeaningful grammatical forms delay in processing than nonredundant and meaningful grammatical forms. In particular, Bransdorfer (1989) investigated learners' ability to process the preposition "de" (inherent semantic value item) and the definite article "la" (less meaningful item) in Spanish. L2 learners of Spanish were divided into three groups: Those who listened to the passage only, those who listened to the passage and noted all appearances of "de"; and those who listened to the passage and noted all appearances of "la". Participants were required to listen to a passage and to recall it in English. The result revealed that recall scores were not significantly different between the listening only group and the listening plus "de" group and between the listening plus "de" group and the listening plus "la" group. However, the listening plus "la" group achieved lower scores than the listening only group. When learners pay attention to a less meaningful form, it negatively affects learners' recall of the passage. The main findings of this study suggest that when learners process input for meaning, meaningful form aid comprehension than less meaningful form.

Nonmeaningful grammatical forms do not contribute to the conveying of meaning and therefore nonmeaningful grammatical forms are the most problematic part of input processing. The Availability of Resources Principle (P1e) describes the reasons and factors for why all grammatical forms finally can be processed from input. This principle states that the probability increases that redundant grammatical forms and nonmeaningful grammatical forms will be processed if the comprehensibility of an utterance-sentence

increases. The question is: what provides for the comprehensibility gain and the availability of processing resources? Possible answers may be: simplification of input; processing time; learners' proficiency; and L2 learners' ability.

According to VanPatten (2004, 2007), proficiency level is a key factor determining the availability of processing resources. VanPatten has affirmed that "comprehension for learners is initially quite effortful in terms of cognitive processing and working memory. At the same time, learners are limited capacity processors and cannot process and store the same amount of information as native speakers can during moment-by-moment processing" (VanPatten, 2007: 116). Lee (1999) analysed the interplay between comprehension and input processing by observing learners' performances in verbal retrospection of a passage. Learners were required to retrospect a passage aloud to show their comprehension of a passage and target grammatical items. In the learners' think aloud, learners initially miscomprehended the temporal and lexical meaning of the target form but they finally used context and guess work to make the meaning of the sentence make sense.

The results of this study showed that the learners initially found it difficult to interpret the meanings of the target grammatical items, but ultimately the learners used context to grasp the lexical meanings. Therefore, this study supports the Availability of Resources Principle (P1e).

The last corollary of the first principle in the input processing framework is the Sentence Location Principle (P1f) which has found support from research into the role in the location of formal elements in a sentence (Barcroft and VanPatten, 1997; Rosa and O'Neill, 1998). VanPatten (2004: 13) argues that "elements that appear in certain positions of an utterance are more salient to learners than others, namely, sentence initial position is more salient than sentence final position and that in turn is more salient than sentence internal or medial position". When L2 learners listen to an utterance, they are exposed to all the elements from first to last and then try to pick up the meaning of the sentence. The Sentence Location Principle (P1f) establishes a hierarchy of difficulty with regard to the

processing of each individual element in a sentence. In a sentence like *Kinoo kaisha ni ikimashita* (Yesterday, I went to the office) the easiest forms to process are those located in initial position (*Kinoo*) within an utterance. A more difficult form to process occurs in utterance-final position (*ikimashita*). A number of empirical studies (Klein, 1986; Barcroft and VanPatten, 1997; Rosa and O'Neill, 1998) have supported the Sentence Location Principle (P1f). One key study was conducted by Barcroft and VanPatten (1997). They investigated how location in an utterance affected the certain grammatical forms (the third person singular, plural and pronoun) for L2 learners. In the study, participants who had studied Spanish for less than two years were required to listen to fifteen Spanish sentences and then to repeat the sentences immediately. The grammatical items were situated in initial, final and medial positions. The result revealed that the items in initial position were more often repeated than those in medial position and then in final position. This study suggests that initial words in utterance-sentences are processed before final and medial words which are the most difficult to process.

The first principle and its corollaries in the input processing theory clearly indicate that L2 learners process input for meaning first and that they rely on words rather than forms to get that meaning. When both words and forms encode the same meaning, L2 learners still rely on words and skip grammatical forms. And finally, L2 learners process elements at the beginning of sentences before elements that appear in the middle and the end.

1.3 The First Noun Principle and its corollaries

In the second principle (P2) VanPatten (1996) argues that learners tend to process the first noun or pronoun they encounter in a sentence as the subject or agent. In Japanese word order an object is often placed before the subject (OSV) and the verb always appears at the end of the sentence, and therefore the First Noun Principle might affect the way L2 learners process this word order in Japanese. In the sentence Chris hit Maria (see below),

learners might process Maria as the subject of the sentence and this would lead to a misinterpretation of the meaning of the sentence and therefore a consequent delay in acquisition (the ability of L2 learners to map syntactic structure in the sentence).

Maria を　Chris　は　たたきました。
Maria o　*Chris wa*　*tatakimashita*

Maria　Chris　hit

VanPatten, Inclezan, Salazar and Farly (2009:559) argues that when L2 learners process sentences containing an SVO order, they do not encounter any problem to make correct syntactic mapping. However, ‘‘because Spanish is not strictly SVO, with OV and OVS being frequent word orders, the FNP can cause a problem” (FNP, First Noun Principle). Likewise, Japanese sentences do not have a rigid word order. The example of the Japanese sentence above clearly shows that the First Noun Principle has a considerable effect on the language learning process for L2 learners of Japanese. Japanese allows L2 learners to express the same content by more than one word order like SOV, OSV and OV. Apart from the word order example provided, other linguistic features affected by the First Noun Principle in Japanese are:

a) case marker
b) comparative
c) passive

a) Chris は　Maria に　あいます。Chris will meet Maria.
Chris *wa*　Maria *ni*　*aimasu*

Chris に　Maria は　あいます。Maria will meet Chris.
Chris *ni*　Maria *wa*　*aimasu*

The two sentences (a) above have different meanings. Particle (*wa*) attachs the noun and determines who is the subject.

b) わたし の ほうが あなた より うつくしい。 (I'm more beautiful than you.)
watashi no hoo ga anata yori utsukushii
S than you Adj＝beautiful

あなた より わたし の ほうが うつくしい。 （I'm more beautiful than you.）
anata yori watashi no hooga utsukushii
than you S Adj＝beautiful

In the comparative sentences (b) above, both sentences have the same meaning. The first noun *anata* in the second sentence is not the subject.

c) ねこは いぬに おいかけられた。 (A cat was chased by a dog)
neko wa inu ni oikakerareta
cat dog was chased

The sentence (c) above would probably be interpreted by L2 learners as if it was the cat who chased the dog, L2 learners would process the first item in the sentence as the agent (subject) of the sentence.

The First Noun Principle (P2) is a well documented processing principle by empirical studies investigating second language acquisition in children (Bever, 1970; Ervin-Tripp, 1974; Nam, 1975; Pleh, 1989) and in adults (VanPatten, 1984; LoCoco, 1987; Lee, 1987b). Particularly, in the study by VanPatten (1984), the interpretation of the Spanish clitic pronouns verb- subject (OVS) word order in adult second language acquisition was investigated. The result of this study showed that the percentage of miscomprehension was as high as 70%. This finding suggests that learners rely on word order rather than on grammatical features as a cue to comprehension. The overall findings of this study suggest that L2 learners assign the role of subject to the first noun or pronoun they encounter in a sentence. If the syntactic structure of the sentence is OVS or OV, this will lead to a misinterpretation of the sentence. The main findings of these studies were generalised to the acquisition of Japanese. Tanaka (1993) conducted a study where she investigated the acquisition of passive forms by L2 learners of Japanese in complex or

compound sentences. Participants were required to answer each question using passive sentence. The first noun was written in the senternce and learners were required to complete complex or compound sentences to answer the question. The first noun was not always a subject in the sentence. The results of error analysis showed that intermediate L2 learners of Japanese tended to misinterpret an initial noun as the subject of the sentence without considering the meaning of the sentence. Sasaki (1998) provided further evidence in support to the First Noun Principle. He conducted a study based on L2 learners of Japanese to investigate an evident word order bias. Participants were required to identify the agent of the main lexical verb of Japanese canonical active, non-canonical active and causative sentences. The findings of his study showed that L2 learners of Japanese used the first noun strategy to assign grammatical roles in both causative and non-canonical sentences in Japanese.

VanPatten's First Noun Principle (P2) has three main associated corollaries. These principles attempt to identify other factors which might influence L2 learners in parsing sentences correctly and attenuate their use of the First Noun Principle (P2). The First Noun Principle (P2) is a main strategy used by L2 learners in assigning grammatical relation among sentence elements. However, learners are sensitive to other factors, the influences of which override that of the First Noun Principle (P2), one of them being lexical semantics. In the sentence shown below the first noun "cake (ケーキ *keeki*)" is inanimate and it cannot perform the action. The word "Chris" is an animate noun and thus is solely capable of performing the action. In this sentence, because a piece of cake cannot perform the action, it is unlikely that L2 learners will misinterpret the meaning of the sentence.

ケーキが　Chris に　食べられた。
keeki ga　Chris *ni*　*taberareta*
A piece of cake was eaten by Chris.

Some empirical support for the influence of the concept animacy as a cue in the interpretation of a target sentence has been provided by Gass (1987). She investigated the effects of the interacting cues of word order and animacy among Italian speakers learning English and English speakers learning Italian. Overall, the results showed that both groups of speakers adopted animacy as a major cue in the interpretation of the target sentences. Gass (1989b) also examined the role of animacy as a major determinant in second language interpretation by learners of English from a variety of language backgrounds. Her findings support the view that L2 learners might rely on lexical semantics cues in parsing and interpreting sentences. The First Noun Principle (P2) is attenuated by the influence of lexical semantics and in some cases learners do not rely on the first noun strategy to interpret who did what in the sentence. According to the Lexical Semantics Principle (P2a), which is a principle in the First Noun Principle (P2), L2 learners may rely on lexical semantics, where possible, instead of word order to interpret sentences.

Another factor which influences learners' interpretation of sentences is real life scenarios. In the following passive sentences, both nouns (先生 teacher and 生徒 student) are capable of performing the action. However, in real life scenarios, the student would be unlikely to scold a teacher. The event probability is lower in sentence (2) than in sentence (1).

1) 生徒は　先生に　しかられた。
seito wa sensei ni　shikarareta.
The student was scolded by the teacher.

2) 先生は　生徒に　しかられた。
sensei wa seito ni　shikarareta.
The teacher was scolded by the student.

According to the Event Probabilities Principle (P2b), "It is possible (though not necessary) that the probability of real-life scenarios might override the First Noun Principle (P2)" (VanPatten, 2007:123).

In the study of Issidirides and Hulstijn (1992), the effects of word orders and animacy in the comprehension of Dutch grammatical inversion sentences (VSO) were investigated on L2 learners of Dutch. The findings showed that L2 learners were much more susceptible to semantic biases when the word orders and animacy conflicted in a sentence. How L2 learners of German comprehend sentences utilizing case markers, word order and semantic information was examined in a study by Jackson (2007). Four different versions of sentences were created with variants as follows: the subject being either animate or inanimate, and the word order being either SVO or OVS. Participants were required to read the sentences and then to select the correct version of the sentence. The findings demonstrated that L2 learners relied on word order rather than case markers. However, when participants selected either "the game angers the coach" or "the coach angers the game", they relied on lexical semantics and real world knowledge to comprehend who did what to whom. When participants chose either "the coach angers the child" or "the child angers the coach", participants interpreted the target sentence correctly using event probabilities. The result revealed that L2 learners relied not only on word order but also on lexical semantics and event probabilities to interpret the sentence correctly. These findings provide direct support for the Event Probabilities Principle (P2b).

In the third of the First Noun Principle (P2), the so-called Contextual Constraint Principle (P2c), VanPatten (2004) states that learners may rely less on the First Noun Principle if preceding context constrains the possible interpretation of a clause or sentence. Contextual information can prevent readers from misinterpreting the correct meaning of a target sentence. In other words, this might be an additional resource which helps readers to parse sentences correctly. VanPatten and Houston (1998) examined the effect of context on sentence interpretation. Two types of sentences were created. Learners received sentences containing OVS word order containing a clause preceding the target linguistic feature and providing contextual information. Learners also received sentences which did not provide contextual information. Overall the results from this study revealed that participants used

the First Noun Principle (P2) to interpret both context and no context sentences. However, the contextual information provides L2 learners with an additional cue for processing the formal elements of a sentence. Further empirical support to the Contextual Constraint Principle (P2c) have been provided by Malovrh (2006). He has investigated the influence of a contextual cue following the OVS phrase in sentence interpretation of Spanish. The main findings from his study showed that no matter where the contextual cue was located either following or preceding the target sentences, the contextual information always enhanced learners' ability to process the target structure of the sentence.

1.4 Implications for the present study

In this chapter, the main characteristics of VanPatten's input processing model have been illustrated. The input processing theory has provided two main principles and formulated in order to explain how L2 learners process input. The two main processing principles explain how learners can make form-meaning connections, and how learners map syntactic structure into the sentence. The two main principles and their associated corollaries were reviewed and some empirical evidence in support to these principles were provided in Table 1.3.

Principles and associated corollaries	Sample studies
The Primacy of Meaning Principle (P1)	Lee (1987a)
The Primacy of Content Words Principle (P1a)	Klein(1986), VanPatten(1990), Mangubhai (1991), Bernhardt (1992),
The Lexical Preference Principle (P1b)	Klein (1986), Musumeci (1989), Bardovi-Harlig (1992), Lee, Cadierno, Glass and VanPatten (1997), Rossomondo (2007)
The Preference for Nonredundancy Principle (P1c)	Dulay and Burt (1973)
The Meaning-Before-Nonmeaning Principle (P1d)	Bransdorfer (1989, 1991)
The Availability of Resources Principle (P1e)	Lee (1999)
The Sentence Location Principle (P1f)	Klein (1986), Barcroft and VanPatten (1997), Rosa and O'Neill (1998)
The First Noun Principle (P2)	Berver (1970), Ervin-Tripp (1974), Nam (1975), VanPatten (1985), Lee (1987), LoCoco (1987), Pleh (1989), Sasaki (1998), Tanaka (1993)
The Lexical Semantics Principle (P2a)	Gass (1987, 1989b)
The Event Probabilities Principle (P2b)	Issidirides and Hulstijn (1992), Jackson (2007)
The Contextual Constraint Principle (P2c)	VanPatten and Houston (1998), Malovrh (2006)

Table 1.1 Empirical studies supporting processing principles and associated corollaries

As a result of what has been outlined in this chapter, both theoretical and pedagogical implications for the present study can be drawn. Considering the important roles of input processing in second language acquisition, manipulating learners' input processing should

have a greater impact on their developing system. Instruction within a processing framework should aim at altering the strategies/principles that are used by L2 learners when processing input. In the case of the First Noun Principle (P2), which is particularly relevant for this study, this processing strategy can cause L2 learners a series of problems in delivering intake to the developing system. In the case of the acquisition of passive forms in Japanese, it might cause learners to misinterpret sentences containing passive forms and also to misuse the passive forms. We need to take into consideration the problems caused by the use of the First Noun Principle (P2) by L2 learners when we consider how to provide grammar instruction. In practical terms instruction should provide learners comprehension strategies to help them to accurately map syntactic structure into the sentence. A new approach to grammar instruction called 'processing instruction' can affect the acquisition process and help learners deliver appropriate and accurate intake to the developing system. In the next chapter the main pedagogical implications of the input processing theory will be highlighted and the main characteristics of processing instruction will be presented.

CHAPTER TWO: PROCESSING INSTRUCTION AND STRUCTURED INPUT PRACTICE

Introduction

In the present chapter, the pedagogical implications for instruction in the input processing theoretical framework presented in the previous chapter will be discussed. VanPatten's input processing model addresses questions such as why L2 learners skip over certain grammatical forms or misinterpret sentence structure, and fail to make form-meaning connection when they process input. In order to help L2 learners to make better form-meaning connections and to map syntactic structure in a sentence correctly, VanPatten (1996) has developed a psycholinguistic approach to grammar instruction called processing instruction. The nature and the characteristics of processing instruction will be defined in this chapter.

2.1 Processing instruction: a psycholinguistic type of grammar instruction

One of the main implications for instruction drawn from Chapter One in an input processing frame work is that grammar instruction should be taken into account for the psycholinguistics processes (input processing principles) used by L2 learners to process input. One of the questions that have been addressed within this theoretical framework is: can we manipulate input to facilitate the way learners process input and increase their intake? Processing instruction is a type of grammar instruction informed by VanPatten's input processing model. Processing instruction aims to change the way input is perceived and processed by L2 learners. The purpose of processing instruction is to help learners to focus on particular grammatical forms and to alter their inappropriate processing problems so that they make better form-meaning connection. The main goal of processing instruction is to guide learners away from inefficient or inappropriate processing strategies toward more effective ones. Consequently certain types of linguistic data are held in the working

memory and can be made available for further processing. Therefore, processing instruction defines a type of psycholinguistic grammar instruction concerned with learners' awareness of grammar, unlike typical traditional methods.

As outlined by Lee and Benati (2009:37) processing instruction has a variety of characteristics: "it is based on the input processing model; it is a psycholinguistics motivated approach; it is intended to make learners make better form meaning connections in the input learners receive; it is a type of instruction that keeps meaning in focus; it is intended to bring learner's attention to incorrect processing strategies; it is input-based as opposed to output-based; it is 'focus on form' as supposed to 'focus on forms'; it is communicative as opposed to traditional; it is a three-component approach to grammar instruction''.

The most salient characteristic of this approach to processing instruction is based on the input processing model. Processing instruction helps learners to process particular sentence structures correctly. Processing instruction always addresses a processing problem by correcting an inappropriate processing strategy or by instilling an appropriate processing strategy. "Processing instruction is a specific approach to explicit grammar instruction and thus falls more clearly within the category of instructional treatments called focus on form" (VanPatten, 1996:83-4). Long (1991) and Long and Robinson (1998) assert that the focus on form instruction can help learners become aware of, understand and ultimately acquire difficult forms. The difference between processing instruction and other 'focus on form' techniques is that processing instruction ensures and guarantees that learners actually process input and make correct form-meaning connections. Processing instruction differs from input enhancement techniques as processing instruction continually provides opportunities for L2 learners to make form–meaning mapping (keeping the learner's processing strategy in mind). Rutherford (1987) coined a term 'consciousness raising'. Consciousness raising refers to an attempt to make learners aware of formal properties of the target language. VanPatten (1996: 85) states that the difference between

consciousness raising and processing instruction is, with consciousness raising we raise learners' consciousness about a grammatical form, and with processing instruction we enrich learners subconscious intake. Processing instruction is an input-based approach which differs from output-based instruction in that learners do not produce targeted grammatical items during instruction. Processing Instruction positively intervenes in input to alter learners' inappropriate processing strategies. Processing instruction is a communicative approach opposed to traditional methods. Traditional instruction is composed of explicit explanation of the target grammatical feature followed by mechanical drills. The difference between processing instruction and traditional instruction is that mechanical drills elicit a very controlled response and help to automatize the use of manipulative patterns (Paulston 1976); moreover, drills do not engage the learners' internal mechanisms as processing instruction does in a communicative way. The reason why processing instruction is a communicative instruction is its structured input activities. The structured input activities are the main component of the processing instruction (structured input activities; more details will be described subsequently) that are learner-centred activities and keep psycholinguistic processing mechanisms in mind.

"During PI the learner's job is to process sentences and to interpret them correctly while attending to form as well" (VanPatten 2002a: 764). The learner's job is not 'noticing'. The term 'noticing' refers to focal awareness (Schmidt, 1990) whereby the learner attends consciously to linguistic features in the input. VanPatten (2002b: 242) argues that "……'process' is the connection that learners make between a form and its meaning during the act of comprehension. Learners may notice lots of things but process some." As outlined by VanPatten (1996: 84), ''simply bringing the form to someone's attention is not a guarantee that it gets processed as for acquisition to happen the intake must continually provide the developing system with examples of correct form-meaning connections that are the results of input processing''. The type of input L2 learners receive in processing instruction is meaningful as it should help them to make the right form-

meaning relationships. The key components of processing instruction are summarised by VanPatten (1996).

- explicit information regarding the target grammatical form or structure;
- explicit information regarding the relevant processing principle/strategy;
- the structured input practice.

Firstly, L2 learners are provided with explicit information about the structural properties about a grammatical form. Learners are given an explanation of how a linguistic form or structure conveys meaning. An example of the explicit information in processing instruction is offered in Figure 2.1. The target linguistic feature is Japanese passive forms.

① The Japanese passive has two different types.

The direct passive sentence is equivalent to an English passive sentence.

Active sentence　　**Tom** は　Chris を　たたきました。　　Tom hit Chris.

Passive sentence　　Chris は　**Tom** に　たたかれました。Chris was hit by Tom.

The indirect passive sentence expresses an idea that a patient was affected by an agent. It implies that a patient was aggrieved in some way by the agent.

Active sentence

Tom は　Chris のケーキを　たべました。　Tom ate Chris's cake.

Passive sentence

Chris は　**Tom** に　ケーキを　たべられました。Chris's cake was eaten by Tom.

patient　agent　direct object

② When a passive sentence is constructed, the verb must be changed to a passive verb form.

In the passive sentence, **に** is attached to an agent and shows who does the action. **に** corresponds to “by” in an English passive sentence.

R1V + れる

たたきます → たたか＋**れる** → たたかれる

make stem of ない form

→change to a past form たたか**れた**→change to a past *masu* form たたか**れ**ました

よびます → よば＋**れる** → よばれる

make stem of ない form

→change to a past form よば**れた**→change to a past *masu* form よば**れ**ました

R2 V +られる

たべる→drop る→たべ＋**られる**→たべられる→change to a past form たべ**られた**

→change to a past *masu* form たべ**られ**ました

Irregular verb きます→ **こられる**→ こられた→ **こられました**

します→ **される**→ された→ **されました**

Figure 2.1 Explicit information component in processing instruction

In the second component of the processing instruction approach, L2 learners are informed about particular processing principles/strategies normally used by learners in the attempt to process input. During processing instruction learners receive specific practicing on how to process the grammatical form or structure the input they receive. In the example in Figure 2.2, learners are told that Japanese passive forms are affected by the First Noun

Principle (P2). According to this processing principle, L2 learners tend to process the first noun or pronoun they encounter in the sentence as a subject or an agent.

③ Keep in mind that the first noun is not an agent (the doer) in the following passive sentence.

Chris は　**Tom** に　たたかれました。Chris was hit by Tom.

Tom is an agent (the person who does the action.)

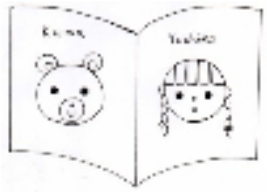
Chris is a patient (the person who is affected.)

Particle に is a little word but に has an important role in the passive sentence. に shows who does the action in the passive sentence.

Please listen or read carefully until the end of sentence.

The end of the verb form is a key to determine whether the sentence is a passive or an active form.

Please pay attention who did what to whom!



What is the meaning of the following sentence?

くまくんは　よしこちゃんに　キスされました。

A　　B

You are right if you selected A, Yoshiko chan kissed Kuma kun.

Figure 2.2 Explicit information regarding a processing strategy

The third component of the processing instruction is a practice component called structured input practice. The term 'input' refers to the fact that learners are not required to produce the target grammatical form during the activities. The term 'structured' is used because input is purposely prepared and is manipulated so that learners must focus on a particular grammatical form to get the meaning. Structured input activities are a type of practice in which learners process a form in the input in a controlled situation so they are able to make better form-meaning connections or parse sentences accurately. Structured input practice consists of two types of activities: referential and affective activities (details are in subsequent pages). Learners receive referencial activity and it is followed by affective activity. In these activities, learners are not to produce language but are activily engaged in processing input. The aim of structured input practice is to ensure that learners rely on form or sentence structure to interpret meaning. VanPatten and Sanz (1995) have produced specific guidelines for developing structured input activities:

1. Present one thing at a time;
2. Keep meaning in focus;
3. Move from sentences to connected discourse;
4. Use both oral and written input;
5. Have learners do something with the input;
6. Keep the learners' processing strategies in mind.

In the first guideline, it is suggested that rules should be presented one at a time. Only one function or one form is the focus of instruction at any given time in order that learners develop maximum efficient achievement (focus on one form-meaning connection at a time). This will allow L2 learners to pay more focal attention to the new form, which is essential as learners have limited capacity to process incoming stimuli.

In the second guideline, VanPatten and Sanz (1995) suggest that learners should be encouraged to make form-meaning connections in the input. As pointed out by VanPatten (1996:68) ‘‘If meaning is absent or if learner do not have to pay attention to meaning to complete the activity, then there is not enhancement of input processing. If the activity can be completed without attention to the referential meaning of the input (as in the case of mechanical drills), then it is not a structured input activity” (Wong 2004: 38).

As indicated by the third guideline, short and simple sentences are recommended at first. This is in order to have learners pay attention to a particular form in the sentence. If we provide too much too soon, learners will find themselves overloaded with information and their processors will not process the necessary information. However, it is also important that learners should be exposed to longer sentences and then eventually to discourse.

During structured input practice (forth guideline), learners should be exposed to both oral and written input. This is in order to account for individual differences and for the fact that both oral and written input will help learners to make form-meaning connections.

In the fifth guideline, it is suggested that learners must do something with the input they receive. Learners must be actively engaged and respond to the input sentence in some way (through referential and affective activities), for example, by responding with their opinion (e.g. agree/disagree, likely/unlikely) or selecting options. However, learners do not produce the target form.

Finally, learners’ attention should be guided to rely on natural processing strategies. One of the roles of structured input activities is to encourage learners to make form-meaning connection which may not be made by learners naturally. The input is therefore re-structured to alter learners’ reliance on one particular strategy. VanPatten and Sanz (1995) suggested to keep psycholinguistic processing mechanism in mind when preparing structured input activities.

In order to construct effective referential and affective structured input activities, we must adhere to the six guidelines developed by VanPatten and Sanz (1995). Referential activities require learners to pay attention to target grammatical items. Both aural and written referential activities consist of a number of sentences and have right or wrong answers. Therefore, an instructor is able to check whether or not the learner has actually made correct form-meaning connection as learners are required to select a correct answer. After completing the task, learners are given the correct answer but no feedback is supplied. An example of a referential activity is shown in Figure 2.3 and Figure 2.4.

Activity 1 for Principle 1

Paris Hilton's life

Step 1

Listen to the following sentences about Paris Hilton's daily life and decide whether she will carry out these actions tomorrow or whether she did them yesterday.

	Tomorrow	Yesterday
1	□	□
2	□	□
3	□	□
4	□	□
5	□	□

Instructor's script

1……Champagne *o nomimashita*. (drank champagne)

2…….*sushi o tabemasu*. (will eat sushi)

3…….Hilton Hotel *ni ikimasu*. (will go to Hilton Hotel)

4…….*eiga o mimashita*. (watched a film)

5……CD *o kikimashita*. (listened to a CD)

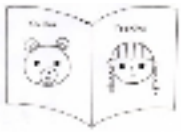
Step 2

Compare your response with a partner and decide whether Paris Hilton's life is luxurious or just normal.

Figure 2.3 Example of a referential activity for Principle 1

In Activity 1, learners are required to process Japanese past tense *mashita,* which is made redundant by the possible presence of a lexical item encoding timeframe and is located at the end of the sentence. This verbal morphology form is affected by a combination of processing principles: the Lexical Preference Principle (P1b) and the Sentence Location Principle (P1f). Therefore, any reference to timeframe is removed (*kinoo* = yesterday) in order for learners to attend to the verb form itself to get the meaning.

Activity 2 for Principle 2

Structured input activities 6 

(1) Listen to each sentence and select a sentence that matches what you hear.

1 ①☐Yoshiko begged Kuma to go shopping. ②☐ Kuma begged Yoshiko to go shopping.

2 ①☐Yoshiko complimented Kuma on his clothes. ②☐ Kuma complimented Yoshiko on her clothes

3 ①☐Yoshiko asked Kuma's age. ②☐ Kuma asked Yoshiko's age.

4 ①☐Yoshiko drank Kuma's juice. ②☐ Kuma drank Yoshiko's juice.

5 ①☐Yoshiko broke Kuma's phone. ②☐ Kuma broke Yoshiko's phone.

Instructor's script

1 *Yoshikochan wa Kumakun ni kaimono o tanomaremashita.*
Yoshiko was asked to go shopping by Kuma.

2 *Yoshikochan wa Kumakun ni fuku o homeraremashita.*
Yoshiko was comprimented her dress by Kuma

3 *Kumakun wa Yoshikochan ni toshi o kikimashita*.
Kuma was asked his age by Yoshiko

4 *Yoshikochan wa Kumakun ni juusu o nomaremashita*.
Yoshiko's juice was drank by Kuma.

5 *Kumakun wa Yoshikochan ni denwa o kowasaremashita*.
Kuma's phone was broken by Yoshiko

Figure 2.4 Example of a referential activity for Principle 2

In Activity 2, the target structure is a Japanese passive form which is affected by another processing problem: namely the First Noun Principle (P2). Activity 2 is to help learners

move away from their dependency on the First Noun Principle for subject-agent role assignment.

Affective activities require learners to express their own opinions or make their own decisions. The purpose of affective activities is to reinforce a connection between the target grammatical form and its meaning in a realistic context. Examples of affective activities are provided in Figure 2.5 and Figure 2.6.

Activity 3 for Principle 1

Paris Hilton's experiences

Step 1

Paris Hilton had some experiences in London. Do you think each experience was a luxury experience or a normal experience?

	Luxury experience	normal experience
1) fish and chips *o tabemashita*.	☐	☐
2) Prince William *ni aimashita*.	☐	☐
3) EastEnders *o mimashita*	☐	☐
4) *uchi o kaimashita*	☐	☐
5) London zoo *ni ikimashita*	☐	☐

Step 2 Compare your response with a partner and decide which experience would be the most luxury experience for Paris Hilton?

Translation
1. ate fish and chips.
2. met Prince William.
3. watched EastEnders.
4. bought a house.
5. went to London zoo.

Figure 2.5 Example of an affective activity for Principle 1

In Activity 3, the target grammatical feature is again the Japanese past tense which is affected by both the Lexical Preference Principle (P1b) and the Sentence Location Principle (P1f). Learners are asked their own opinion about Paris Hilton's experiences in

London in order to have them process the Japanese past tense *mashita* and provide 'good' form-meaning connections.

Activity 4 for Principle 2

Each sentence describes an event happening to Victoria Beckham. Do you think that each statement is likely or unlikely to happen? Read each sentence and tick "likely" or "unlikely"

	Likely	Unlikely
1 David に　キスされました。	☐	☐
2 David に　おこされました。	☐	☐
3 David に　そうじを　たのまれました。	☐	☐
4 David に　おかねを　つかわれました。	☐	☐
5 David に　メールを　みられました。	☐	☐

Compare your response with a partner and decide which event is the most likely or unlikely. Do you think David and Victoria love each other?

Translation
1. She was kissed by David
2. She was woken up by David.
3 She was begged by David to clean the room.
4. Her money was taken by David.
5. Her email was read by David.

Figure 2.6 Example of an affective activity for Principle 2

In Activity 4, the target grammatical structure is Japanese passive sentences which are affected by the First Noun Principle (P2). The activity asks learners to express an opinion about David and Victoria's relationship and to do so learners need to parse the syntactic structure correctly otherwise they will misinterpret the meaning of each sentence. The purpose of this activity is to focus on who did what to whom, and to move learners away from the First Noun Principle (P2) which will cause a delay in the learner's acquisition of Japanese passive forms.

The main role of processing instruction is to manipulate, enhance and alter input processing so that L2 learners make grammatically rich and correct intake. SLA occurs when learners perceive and process linguistic data in the language they hear or read.

The main role of structured input activities is to ensure that L2 learners can process input more effectively and efficiently. During the structured input practice, the portion of input is passed through intake into the developing system. Structured input activities are designed to circumvent a processing problem and help learners to process input correctly. Structured input practice plays a key role within the processing instruction approach. One line of research within the processing instruction research framework (VanPatten and Oikkenon, 1996; Benati, 2004a, b; Farley, 2004b; VanPatten and Wong, 2004; Lee and Benati, 2007a), has investigated the relative effects of different components of processing instruction (explicit information and structured input practice). The original study was carried out by VanPatten and Oikkenon (1996) utilising the object pronouns in Spanish affected by the First Noun Principle (P2). In this study, participants were divided into three groups: explicit information; structured input activities only; and full processing instruction. Their study showed that the processing instruction and the structured input activities only groups made similar improvement on both the interpretation and the production tasks. Overall the main findings of this study suggest that structured input practice is the causative factor for the improved performance of the two groups. Structured input practice plays the main role as the key component of the processing instruction approach to grammar teaching.

2.2 Implications for the present study

In this chapter the characteristics and the nature of processing instruction have been described. This approach to grammar instruction takes into consideration how learners first process the input they are exposed to. One of the key functions of processing instruction is that it provides L2 learners opportunities through structured input activities to process

forms and structures in a target language more efficiently than any other approach to grammar teaching. Forms and structure might be affected by one of the processing principles we outlined in Chapter One and therefore it could be very difficult for learners to process. A type of focus on form which encourages learners to process information via comprehension practice is more effective than an approach which requires learners to produce target language utterances. In processing instruction L2 learners are provided with information about the linguistic feature and the processing problem, and more importantly L2 learners are engaged in structured input activities practice. Structured input practice is directed at enabling L2 learners to establish form-meaning connections or parse sentences correctly during comprehension. In this sense, processing instruction is an input processing based approach to grammar instruction. Research has shown that it is the structured input component that is the main factor responsible for the effectiveness of processing instruction. It is the structured input component that is responsible for the changes in learners' developing system and eventually in their output.

In the next chapter a number of studies that have investigated the effectiveness of this type of grammar instruction called processing instruction will be reviewed.

CHAPTER THREE: MEASURING THE EFFECTS OF PROCESSING INSTRUCTION

Introduction

The effects of processing instruction have been measured in a series of classroom-based empirical studies. The majority of these studies have measured the effectiveness of processing instruction utilising two main types of assessment tasks and modes: interpretation task with aural mode, and production task with oral and written modes. These tasks measured learners' performance at sentence level. The interpretation task at sentence level measured the ability for learners to hear an isolated sentence and to interpret the meaning of the target grammatical feature or structure. The purpose of the production task at sentence level was to measure learners' ability to produce a target form or structure.

The main findings from studies investigating the effects of processing instruction at sentence level have clearly indicated that processing instruction helps L2 learners process certain grammatical forms or structures that may be affected by processing problems. Processing instruction is more effective than other types of instruction (e.g. traditional instruction, meaning-based instruction) in helping L2 learners to circumvent syntactic, perceptual, and semantic processing strategies. Learners receiving processing instruction improve their performance on sentence level interpretation and production tasks.

In addition to this large database of empirical studies measuring sentence level performance, there are also some studies which have measured the effects of processing instruction on production of discourse level tasks in both oral and written modes. The overall findings of these studies also clearly showed that processing instruction is an effective type of instruction on production discourse level oral and written tasks.

In the next sections we will examine the results of classroom-based studies addressing these two different lines of enquiry. The review of these studies will reveal a lacuna on the current processing instruction research agenda. Processing instruction is an effective type of instruction as a form of intervention that improves learners' performance

on sentence interpretation and production tasks and on discourse level production tasks. As we examine in this chapter, this is the case for different processing strategies, different languages and participants from different backgrounds. However, there is no research that has investigated the relative effects of processing instruction on discourse level interpretation tasks.

3.1 The effects of processing instruction in Japanese

Lee and Benati (2007f) conducted a further study to measure the possible effects of structured input activities on the acquisition of the past tense and negative form in Japanese. It was the first time to use non Romance language to investigate the effectiveness of processing instruction. The past tense is affected by the Lexical Preference Principle (P1b). The Lexical Preference Principle (P1b) asserts that if a lexical item and a grammatical form in the sentence represent the same semantic notions, the form will not be processed because learners tend to focus on the content words to grasp the meaning of the sentence. *watashi wa ringo o tabemasu* (I eat an apple). This is a non-past sentence and *masu* in *tabemasu* (eat) expresses a future action. When a past sentence is constructed verb morphology *masu* changes to past tense *mashita.* In the following sentence of Japanese *kinoo watashi wa ringo o tabemashita* (Yesterday, I ate an apple), both lexical item "*kinoo* (yesterday)" and verb morphology "*mashita* in *tabemashita*" encode pastness. As same as past tense, the negative form appears as a verbal inflection and expresses negative meaning of the verb. *Watashi wa sakana o taberu* (I eat fish). When negative sentence is constructed, an affirmative verbal inflection *ru* in *taberu* changes to negative form *nai* in *tabenai* and this verb appears in final position at the sentence. *Watashi wa sakana o tabenai* (I do not eat fish). Therefore, the negative sentence is affected by the Sentence Location Principle (P1d). The Sentence Location Principle (P1d) asserets that learners tend to process iterns in sentence initial position before those in final postion and those in medial position. This investigation was carried out with twenty seven participants. All

participants (Italian native speakers) were beginner level and studying Japanese in a private school in Italy. The participants were assigned to two groups: the structured input group and the traditional instruction group. The pre- and post-test procedure was adopted with immediate post-test. Two different assessment tasks for each were developed (interpretation and production sentence level tasks) for past tense and negative forms. Both sentence level aural interpretation tasks (past tense and negative form versions) consisted of twenty sentences. Ten sentences were critical items and the other ten sentences served as distracters. All sentences contained frequently used items and familiar vocabulary for the students' level. Participants were required to listen to each sentence and select whether the sentence expressed (present vs past or affirmative vs negative). A correct answer scored one point and an incorrect answer scored zero points. The possible total score ranged from zero points to ten points. Distracters were not involved in the scoring. The results of the interpretation task revealed that the structured input group outperformed the traditional instruction group in the both versions' tasks. Both sentence level written production tasks (past tense and negative form versions) consisted of ten sentences. Subjects were required to supply the correct form (past tense and negative form) in each sentence. A correct answer scored one point and an incorrect answer scored zero points. The possible total score ranged from zero points to ten points. The results of the production task revealed that the structured input and the traditional instruction groups made equal improvements in both versions of the tasks. The findings of this study provided evidence that structured input practice was beneficial for L2 learners in helping them to interpret and produce non Romance language specifically Japanese.

As part of the different line of research regarding the effectiveness of enhanced structured input activities, Lee and Benati (2007c) investigated the effects of processing instruction on the acquisition of past tense in Japanese again. However, this time the main purpose of this study was to generalise the results of the original study (Compared the effectiveness of structured input activities and enhanced treatment of SI) conducted by Lee

and Benati (2007a). Twenty six participants carried out this experiment. Participants who were all Italian native speakers were studying Japanese in an Italian private language school in Italy. They were beginner level students. The participants were randomly assigned to three groups: the structured input group, the enhanced structured input group, and the control group. A pre- and post-test procedure was adopted with immediate and delayed post-tests. The delayed post-test was administered one week after the instructional period. Two different assessment tasks were developed for each target item (interpretation and production sentence level tasks). The sentence level aural interpretation task consisted of twenty sentences. Ten sentences included the past tense as critical items and the other ten sentences, which were in the present tense served as distracters. All sentences contained frequently used items and familiar vocabulary items. Participants were required to listen to each sentence and select when the action was taking place: in the present, in the past or "I am not sure". A correct answer scored one point and an incorrect answer scored zero points. The possible total score ranged from zero points to ten points. Distracters were not scored. The results of the interpretation task revealed that the structured input and the enhanced structured input groups improved equally, and both groups were better than the control group. These improvements were maintained in the delayed post-test. The sentence level written production task contained ten sentences. Participants were required to complete each sentence to produce the correct past form. A correct answer scored one point and an incorrect answer scored zero points. The possible score ranged from zero points to ten points. The results of the production task revealed that both the structured input and the enhanced structured input groups improved equally and performed better than the control group. Their improvements were maintained in the delayed post-test. The results of this study showed that enhanced and unenhanced structured input were equally effective in helping learners' processing of different grammatical forms.

Study	Research	Mode	Task	Contents	Level
Lee & Benati (2007c)	PI vs Enhanced PI	Aural	Matching answer selection	20 sentences 10 target items 10 distracters	Sentence Level
Lee & Benati (2007f)	SI vs TI	Aural	Correct answer selection	20 sentences 10 target items 10 distracters	Sentence Level

Table 3.1: Effect of processing instruction at sentence level in Japanese. PI, processing instruction, SI, structured input, TI, traditional uinstruction.

3.2 The effects of processing instruction at sentence level: interpretation and production tasks

Research on processing instruction has addressed the relative effects of this new psycholinguistic approach to grammar instruction at altering various L2 learners processing strategies. Overall, the research findings have clearly shown that processing instruction is an effective type of instruction across different types of processing strategies (e.g. syntactic and perceptual), and has positive effects on improving learners' ability to interpret and produce grammatical forms at sentence level.

Syntactic strategies (the First Noun Principle)

One of the processing strategies that has been investigated within the processing instruction research framework is the First Noun Principle (P2). The first study investigating the relative effects of processing instruction on the First Noun Principle (P2) was carried out by VanPatten and Cadierno (1993). The First Noun Principle (P2) asserts that L2 learners tend to process the first noun or pronoun they encounter in a sentence as a subject or an agent. VanPatten and Cadierno (1993) investigated the impact of processing instruction on the acquisition of Spanish direct object pronouns. This grammatical feature is affected by the First Noun Principle (P2). Learners of Spanish tend to misinterpret sentences containing direct object pronouns, as they assign the role of subject to the first noun they encounter in the sentence. In the following sentence in Spanish *La sigue el serior* (The man follows her), learners will tend to process the object pronoun *La* as the subject or agent of the sentence and this will lead them to misinterpret the meaning of this

sentence as 'She follows the man' rather than the correct 'The man follows her'. One of the key questions addressed in this study was: Does processing instruction have an effect on the way learners process input? Eighty university students (all native speakers of English) who were studying Spanish participated in this study. The participants were randomly assigned to three different groups: processing instruction, traditional instruction and the control group. A pre- and post-test procedure was adopted with immediate and delayed post-tests. Two different assessment tasks were developed (interpretation and production sentence level tasks). The sentence level interpretation task was an aural task containing fifteen sentences. Ten sentences were critical items consisting of object, verb, subject word order type (OVS) or object pronoun, verb, subject word order type (O_{pro}VS). The other five sentences served as distracters consisting of subject, verb, object words order type (SVO). All sentences were written in the present tense using frequently used items and familiar vocabulary for the students' level. Participants were required to listen to each sentence and to select a matching picture for each sentence from two similar drawings. The two pictures represented the same actions but the difference between them was who was the subject and who was the object of the sentence. In the case of the following sentence *A la chica la abraza la mama* which means 'The mother hugs the girl' participants had to choose between a picture describing a woman hugging a child and a picture of a child hugging a woman. All pictures were presented on an overhead projector, and participants were given eight seconds to select a picture after listening. A correct picture selection scored one point and an incorrect picture selection scored zero points. Distracters were not scored. The maximum total score was ten points. The results of the interpretation task showed that the processing instruction group performed better than the traditional instruction and control groups in the interpretation task. The positive effects of processing instruction were also maintained in the delayed post-test. The sentence level written production task contained five incomplete sentences. Participants were required to complete the sentences using an object pronoun correctly. Each item consisted of a two-

part sentence that corresponds to a two-part drawing. The second part of the sentence was incomplete and the participant's task was to complete it based on the visual cues. One of the items was *El chico piensa en la chica y entonces* which means 'The boy is thinking about the girl and so…', and the connected pictures show the boy is thinking about the girl in the first frame and in the second frame he is calling her. The correct answer would be to write *y entonces la llama* which means 'and so he called her'. Two points were given for each correct direct object pronoun form, and zero points for a sentence with an incorrect form. One point was given if participants completed the sentence with a correct form but in the wrong position or an incorrect form but in the correct position. The results of the production sentence level task showed that the processing instruction group and the traditional instruction group made similar improvements, and that both treatments were superior to the control group. These improvements were maintained in the delayed post-test. The results of this study, which has an enormous impact on subsequent studies, showed that processing instruction was beneficial for L2 learners in helping them to interpret Spanish direct object pronouns correctly and furthermore at improving their ability to produce sentences containing the target linguistic feature.

As part of a different line of research within the processing instruction research framework which compared the components of processing instruction, VanPatten and Oikkenon (1996) investigated the effects of explicit information and structured input practice on the acquisition of Spanish direct object pronouns. The main purpose of this study was to establish which factor would be the most effective component in the processing instruction approach. The investigation was carried out with fifty nine participants. All participants (English native speakers) were studying Spanish in secondary school and were all in their second year. The item investigated was, as in the case of VanPatten and Cadierno (1993), the object pronouns in Spanish. A pre-test/post-test (immediate and delayed) was adopted in this experiment. Participants were randomly assigned to three groups: the regular processing instruction group, the explicit information

only group and the structured input practice only group. The materials, assessment tasks and scoring procedure that VanPatten and Cadierno (1993) produced and used for their investigation, was also utilised in the case of this experimental study. Two assessment tasks were used (interpretation and production sentence level tasks). The sentence level aural interpretation task consisted of twenty-two sentences. Ten sentences were target items and twelve sentences served as distracters. All sentences contained frequently used items and familiar vocabulary for the students' level. As in the case of VanPatten and Cadierno's study (1993), participants were required to listen to each sentence and select a matching picture from two similar pictures. The possible total score ranged between zero and ten points. Distracters were not scored. The results of the interpretation task revealed that the processing instruction group and the structured input practice only group performed better than the explicit information only group. The sentence level written production task contained ten incomplete sentences: five sentences as target items and the other five sentences as distracters. Participants were required to complete sentences with object pronouns. Distracters did not require the use of direct object pronouns. Each correct sentence was given two points but if participants completed a sentence with either a correct form in the incorrect position or an incorrect form in the correct position, there were given one point. Zero points for all the incorrect sentences. The results from the production task was similar to the interpretation task and revealed that the processing instruction group and the structured input practice only group performed better than the explicit information only group. The overall outcomes of this study were that structured input practice was found to be the causative variable for learners' gains in interpretation and production sentence level tasks. A very significant finding of this study is that the structured input activities group performed as well as the processing instruction group. As indicated by VanPatten (1996: 126), these findings strongly suggest that it is the structured input activities and the form-meaning connections being made during input processing that are responsible for the relative effects observed in the present study.

VanPatten and Wong (2004) conducted a study investigating the relative effects of processing instruction on the acquisition of French causative *faire*. This grammatical feature is affected by the First Noun Principle. Learners of French tend to misinterpret semantic relationship between noun and verb in French *faire* causative. In the following sentence *Jean fait promener le chien à Marie* (Jean makes Marie walk the dog), learners will tend to process the first noun *Jean* as an agent in this sentence. Seventy seven university students who were studying French at two different universities participated in this study. They were randomly divided into three groups: processing instruction group, traditional instruction group, the control group. A pre- and post-test procedure was adopted with immediate post-test. Two assessment tasks were developed (interpretation and production sentence level tasks). The sentence level aural interpretation task consisted of fourteen sentences. Seven sentences included causative forms were critical items and the other seven sentences served as distracters. All sentences contained frequently used items and familiar vocabulary for the students' level. Participants were required to listen to a series of sentence described people doing various activities and determined who was doing the activity in each sentence. A correct answer scored one point and incorrect answer scored zero points. The possible total score ranged between zero point and seven points. Distracters were not scored. The results of the interpretation task revealed that the processing instruction group outperformed the traditional instruction group. The control group did not improve their performance. The sentence level written production task contained ten incomplete sentences. Five sentences as target items and the other five sentences served as distracters. A series of ten pictures was provided on an overhead projector. Participants were required to complete sentences using the verb *faire* and to describe each picture. The first part of each sentence was provided on the test paper and the second part was incomplete. The distracters did not require any causatives. A correct answer scored two points but partial correction scored only one point. The possible total score was ten points. The results from the production task revealed that the processing

instruction group and the traditional instruction group performed better than the control group. The overall outcomes of this study showed that processing instruction was the most effective approach in helping learners to process causative forms appropriately.

VanPatten and Fernández (2004) investigated possible long term effects of processing instruction on the acquisition of Spanish OVS sentences and clitic pronouns. This grammatical feature is also affected by the First Noun Principle. Forty five university students who were studying Spanish (all native speakers of English) participated in this study. A pre- and post-test procedure was adopted with immediate and delayed post-tests. A delayed post-test was carried out eight months after the instructional treatment. Two different assessment tasks were developed (interpretation and production sentence level tasks). The sentence level aural interpretation task consisted of ten critical items (OVS sentences) and five distracters (SVO sentences). All sentences contained frequently used items and familiar vocabulary for the students' level. Participants were required to listen to each sentence and select a matching picture for each sentence from two similar pictures. A correct picture selection scored one point and an incorrect picture selection scored zero points. The possible total score ranged between zero points and ten points. Distracters were not scored. The results of the interpretation task revealed that all the participants made improvements from the pre-test to the post-test. However, the results of processing instruction diminished after eight months. The sentence level written production task contained five critical items and five distracters. Each item consisted of two parts of sentences corresponding with pictures. The second part of each sentence was incomplete. The picture was a visual cue for each sentence. Participants were required to complete the sentence using the verb given in brackets. A correct answer scored two points but partial correction scored only one point. The possible total score ranged between zero points and ten points. The results of the production task revealed that the participants improved their performance from the pre-test to the post-test. However, like in the case of the interpretation task, the results of processing instruction diminished after eight months. The

overall results of this study indicated that despite the diminished effects of processing instruction in the delayed post-test, the effects of processing instruction were still statistically significant (pre-test vs. delayed post-test).

Morgan-Short and Bowden (2006) compared the relative effects of processing instruction and meaning-based output instruction (MOI) on the acquisition of Spanish preverbal direct object pronouns. This grammatical feature is affected by the First Noun Principle. This investigation was carried out with forty five participants. All participants (English native speakers) were studying Spanish at university. The participants were randomly assigned to three groups: processing instruction group, meaning-based output instruction group and the control group. A pre- and post-test procedure was adopted with immediate and delayed post-tests. Two different assessment tasks were developed (interpretation and production sentence level tasks). The sentence level aural interpretation task contained twenty sentences. Twelve sentences were critical items and the other eight sentences served as distracters. All sentences were written using frequently used items and familiar vocabulary for the students' level. Participants were required to listen to each sentence twice and selected a matching picture for each sentence from the three similar pictures or an "I don't know" option. A correct answer scored one point and an incorrect answer scored zero points. Distracters were not scored. The possible total score ranged between zero points and ten points. The results of the interpretation task revealed that both the processing instruction group and the meaning-based output instruction group performed better than the control group. The positive effects of processing instruction were also maintained in the delayed post-test. The sentence level written production task consisted of twenty items. Twelve sentences were critical items and eight other sentences served as distracters. Participants were required to complete each sentence using a verb that was provided by indicating an appropriate picture. A correct answer was given two points but if participants completed sentence with either a correct form in the incorrect position or an incorrect form in the correct position, they scored one point. An incorrect

answer scored zero points. Distracters were not scored. The possible total score ranged between zero and twenty points. The results of the production task showed that both the processing instruction and meaning-based output instruction groups outperformed the control group. The positive effects of processing instruction were also maintained in the delayed post-test. The results of this case study showed that processing instruction and meaning-based output instruction were equally beneficial for L2 learners in helping them to interpret and produce Spanish preverbal direct object pronouns.

VanPatten, Inclezan, Salazar and Farly (2009) investigated the relevant effects of processing instruction on the acquisition of Spanish with clitic direct pronouns which is affected by the First Noun Principle. The main purpose of this study was to compare processing instruction to a so-called dictogloss task, which involved the reconstruction of a passage. One hundred and eight university students (all native speakers of English) who were studying Spanish participated in this study. The participants were randomly assigned to three groups: processing instruction group, dictogloss tasks group and the control group. The assessment tasks were carried out in a pre-test, immediate post-test and delay post-test design. A delayed post-test was administered six weeks after the instructional treatment. Three different assessment tasks were used (one interpretation task and two production tasks). The sentence level interpretation task consisted of fifteen oral sentences involving ten critical items and five distracters. All sentences contained frequently used items and familiar vocabulary for the students' level. Participants were required to listen to each sentence and select from one of two pictures to identify who did what to whom. A correct answer scored one point and an incorrect answer scored zero points. Distracters were not scored. The possible total score ranged between zero points and ten points. The results of interpretation task revealed that the processing instruction group performed better than the dictogloss tasks group and the control group. The positive effects of processing instruction were also maintained in the delayed post-test. The sentence level production task was a paper-and-pencil test comprising ten incomplete sentences. Participants were required to

examine the two pictures and complete the sentence corresponding to the second picture. A correct answer scored two points and an incorrect answer scored zero points. A correct answer was given two points but if participants completed sentence with either a correct form in the incorrect position or an incorrect form in the correct position, they scored one point. An incorrect answer scored zero points. Distracters were not scored. The possible total score ranged between zero points and ten points. The results of the production task showed that the processing instruction group performed better than the dictogloss task group and the control group. However, all groups' scores diminished in the delayed post-test. The second production task required participants to reconstruct a short passage (over forty words). Participants were instructed to listen to a pre-recorded passage in Spanish twice and then reconstruct the passage in Spanish. The possible total score ranged between zero points and ten points. The results of second production task revealed that both the processing instruction group and the dictogloss task group improved equally and scored higher than the control group. However, the scores of the three groups diminished in the delayed post-test. Overall, the processing instruction group had a clear advantage in the interpretation task, and a slight advantage in the production task, whereas there was no advantage for any group for the reconstruction task.

Summary

The six studies reviewed in this section have measured the effects of processing instruction in altering a specific processing principle: namely the First Noun Principle. The nature of the interpretation task used in the six studies is summarised in Table 3.1. This table clearly shows that the interpretation tasks used in these studies were all aural sentence level tasks containing target features and distracters. The main characteristic of the interpretation tasks used in the empirical studies reviewed, is that learners were asked to make a correct picture selection. This task was originally developed in VanPatten and Cadierno's study (1993). The overall findings from these six studies have revealed that

processing instruction is successful at helping learner to alter the way they process input (the First Noun Principle) at sentence level and also producing sentences containing the target grammatical feature.

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Study	Research	Mode	Task	Contents	Level
VanPatten & Cadierno (1993)	PI vs TI	Aural	Correct picture selection	15 sentences 10 target items 5 distracters	Sentence Level
VanPatten & Oikkenon (1996)	PI vs SI vs EI	Aural	Correct picture selection	22 sentences 10 target items 12 distracters	Sentence Level
VanPatten & Wong (2004)	PI vs TI	Aural	Correct sentence selection	14 sentences 7 target items 7 distracters	Sentence Level
VanPatten & Fernández (2004)	Long term effect	Aural	Correct picture selection	15 sentences 10 target items 5 distracters	Sentence Level
Morgan-Short & Bowden (2006)	PI vs MOI	Aural	Correct picture selection	20 sentences 12 target items 8 distracters	Sentence Level
VanPatten, Inclezan, Salazar & Farly (2009)	PI vs DG	Aural	Correct picture selection	15 sentences 10 target items 5 distracters	Sentence Level

Table 3.2 Interpretation sentence-level tasks (The syntactic strategy); PI, processing instruction; TI, traditional instruction; SI, structured input; MOI, meaning-based output instruction; DG, dictogloss

Perceptual and semantic strategies (The Primacy of Meaning Principle)

The effects of processing instruction on perceptual and semantic processing problems have also been investigated. Acoustic stress can be perceived and used to determine semantic distinctions within some languages, while some grammatical forms are determiners for sentence meaning. The Primacy of Meaning Principle (P1) describes processing problems within both categories of linguistic features.

Perceptual strategies

Cadierno (1995) investigated the impact of processing instruction on the acquisition of Spanish 'preterite tense' (simple past). Cadierno's study was based on the Lexical Preference Principle (P1b). As the Lexical Preference Principle (P1b) states, learners tend to process temporal adverbs before verbal morphology to get meaning because both items encode the same semantic information. The aim of processing instruction was to push learners to attend to elements in the input that might be otherwise missed. In the following the sentence in Spanish *Ayer Chris comio una manzana* (Yesterday, Chris ate an apple), the temporal adverbs (*ayer*) and past tense morphology (-*io*), both indicate pastness. Learners tend to rely on the adverb to interpret the sentence and as a result of this, they do not process the grammatical marker. Sixty one students (all native speakers of English) who were in the third year of a Spanish course at university participated in this study. The participants were randomly assigned to three groups: processing instruction group, traditional instruction group and the control group. A pre- and post-test procedure was adopted with immediate post-test. Two different assessment tasks were developed (interpretation and production sentence level tasks). The sentence level interpretation task was an aural task consisting of twenty sentences. Ten sentences contained the simple past tense without temporal adverbs, to express the past by verb morphology. Ten sentences contained the present tense without temporal adverbs and served as distracters. All sentences consisted of frequently used items and familiar vocabulary for the students' level. Participants were required to listen to each sentence describing an action and then decide whether the tense represented present or past action, or did not indicate the tense. The task was administered with a time limitation in the same manner as VanPatten and Cadierno's (1993) study. A correct answer scored one point and an incorrect answer scored zero points. The possible total score ranged between zero points and ten points. The distracters were not scored. The results of the interpretation task revealed that the processing instruction group performed better than the traditional instruction group and the control group. The

traditional instruction group and the control group showed no difference in their performance. The positive effects of processing instruction were maintained in the delayed post-test. The sentence level written production task consisted of five incomplete sentences. Participants were required to complete the sentences changing an infinitive verb in the bracket to the past tense. The test was administered with time limitation. The possible total score of the production task ranged between zero and ten points. If a sentence was completed with a correct past tense, two points were scored and zero points for all the incorrect sentences. However, if participants completed an incorrect sentence but with a correct past tense, they scored one point. The results of the production task showed that the processing instruction group and the traditional instruction group performed better than the control group. These improvements were maintained in the delayed post-test. The results of this study showed that processing instruction was an effective approach to alter a different processing problem (the Lexical Preference Principle) so that a grammatical form (the Spanish simple past tense morphology) was processed correctly.

In a different line of investigation within the processing instruction research framework, Benati (2004a) investigated the effects of the components of processing instruction (explicit information, structured input practice, and a combination of the two) on the acquisition of future tense in Italian. This grammatical feature is also affected by the Lexical Preference Principle (P1b). In the following sentence in Italian *Chris arrivera la settimana prossima* (Chris will arrive next week), both lexical items '*settimana prossima'* (next week) and verb morphology '*-á'* encode the same semantic information. Learners tend to rely on lexical items to process the meaning of this sentence and therefore skip the grammatical item. Thirty eight participants (all English native speakers) studying Italian at undergraduate level in a university programme were randomly assigned to three groups: processing instruction group, structured input only group and explicit information only group. A pre- and post-test procedure was adopted with immediate and delayed post-tests. The delayed post-test was administered four weeks later. Two assessment tasks were used

(interpretation and production sentence level tasks). The sentence level aural interpretation task contained twenty sentences. Ten sentences were critical items containing future tense. The other ten sentences served as distracters containing present tense. All sentences contained frequently used items and familiar vocabulary for the students' level. Participants were required to listen to each sentence once and select whether the sentence indicated a present or a future event. A correct answer scored one point and an incorrect answer scored zero points. The possible total score ranged between zero and ten points. Distracters were not scored. The results of the interpretation task revealed that the processing instruction group and the structured input only group improved equally and their improvement was better than the explicit information only group. The positive effects of the processing instruction and structured input only groups were also maintained in the delayed post-test. The sentence level written production task consisted of a short text including five blanks. Participants were required to fill in the blanks to complete the text with future tense provided in the brackets. A correct answer scored two points, a partially correct sentence scored one point and an incorrect answer scored zero points. The possible total score ranged between zero points and ten points. The results of the production task revealed that the processing instruction group and the structured input only group improved equally and better than the explicit information group. The improvements of the processing instruction group and structured input group were also maintained in the delayed post-test. The results of this study provided further evidence (VanPatten and Oikennon, 1996) that causative component responsible for the positive effects of processing instruction is the structured input practice component.

Benati (2004b) conducted a second study to tease out again possible effects of each individual component in the processing instruction approach. This time the feature under investigation was the Italian gender agreement. This grammatical feature is affected by the Preference for Nonredundancy Principle (P1c). In the case of noun-adjective agreement, adjectives in Italian must agree in number and gender with the noun '*la casa bella'* (a

beautiful house). This feature of grammar (a = singular feminine) is highly redundant (la casa bella) and low in semantic value as it does not contribute very much to the meaning of the utterance. The investigation was carried out with thirty one students who were studying Italian in a university programme. The participants (all native speakers of English) were randomly assigned to three groups: processing instruction group, structured input group and explicit information group. One interpretation and two production measures were used in a pre- and post-test design. The sentence level aural interpretation task consisted of twenty sentences. Ten sentences were critical items and the other ten sentences served as distracters. All sentences contained frequently used items and familiar vocabulary for the students' level. Participants were required to listen to each sentence and select the correct picture corresponding to each sentence. A correct answer scored one point and an incorrect answer scored zero points. The possible total score ranged between zero points and ten points. Distracters were not scored. The results of the interpretation task showed that the processing instruction group and the structured input only group improved equally. Both groups performed better than the explicit information group. The sentence level written production task contained ten items. Participants were required to fill in the blanks in a passage to complete the text using the adjective in the brackets. A correct answer scored one point and an incorrect answer scored zero points. The possible total score ranged between zero and ten points. The results of the written production task revealed that the processing instruction group and structured input only group performed better than the explicit information only group. There was no difference between the processing instruction group and the structured input only group. In the sentence level oral production task, participants were given pictures of two different environments (town and city) and required to describe and make comments regarding life in these two environments. The aim of the task was to elicit the use of the target items in relatively spontaneous speech. The scores of the tests were converted into percentages in the statistical analyses. The results of the oral production task showed that the processing instruction group and the

structured input only group equally outperformed the explicit information only group. The findings strengthen the evidence from previous studies regarding the positive effects of structured input practice, this time with a different processing problem, a different structure and a more spontaneous and communicative task.

Lee, Benati, Sánchez and McNulty (2007) investigated the relative effects of processing instruction on the acquisition of the *preterite*/imperfect distinction and the negative informal commands in Spanish. These grammatical features are affected by a combination of processing problems. The *preterite* and imperfect are used as perfective aspect and imperfective aspect respectively. In the following sentence of Spanish *El telefono sonò mientras Chris miraba la* TV (The phone rang while Chris was watching TV), the verb morphology distinguishes the perfective from the imperfective aspect. In this sentence the verb morphology *–ò-* in '*sonò'* appears in the medial position. This grammatical feature is therefore affected by both the Sentence Location Principle (P2f) and the Lexical Preference Principle (P2b). In the following sentence of Spanish *No comas la manzana* (Do not eat the apple), the negative informal command requires a particular morphological form (*-as* in *comas*) with a negative particle which appears in preverbal position. Therefore, the verb morphology is made redundant in this sentence. For this experimental study, three different material packs were developed: textbook, computer and hybrid. The textbook material pack was used in the classroom by the classroom treatment group and the same material was also used in a computer version for the computer treatment group. The third mode of delivering processing instruction was the so-called hybrid treatment. The hybrid treatment was a downloaded version of the computer materials. The investigation was carried out with twenty five participants (all native speakers of English) who were first year university students of Spanish. The participants were randomly assigned to three groups: classroom, computer and hybrid groups. The assessment tasks were administered in a pre-test, immediate post-test and delay post-test design. The delayed post-test was administered one week after the instructional treatment.

There were two instructional treatments: negative informal commands and the *preterite*/imperfect distinction. A sentence level assessment task was developed. The sentence level form recognition assessment task for *preterite*/imperfect distinction contained two sections. The first section consisted of five sentences, each containing two blanks. Participants were required to select an appropriate response for the blanks in each sentence. The second part of the task contained a paragraph of eight related sentences included eleven target items. Participants were required to select either the *preterite* or imperfect form of the verb in each sentence according to the context. The possible total score ranged between zero points and sixteen one points. The results of this sentence level task revealed that processing instruction was equally effective across the classroom treatment group, computer treatment group, and hybrid treatment group. These improvements were maintained in the delayed post-test. The sentence level assessment task for negative informal commands consisted of five scenarios presented in English. The scenarios included target items and distracters totalling fourteen items. Participants were required to select the appropriate response from four choices. The task scores were converted into percentages in the statistical analyses. The results of the sentence level assessment task revealed that the three groups made an equal improvement. The improvements of all groups were maintained in the delayed post-test. The overall findings from this study suggested that processing instruction can be successfully delivered in an equal way by different instructional modes (computer or classroom).

Lee and Benati (2007a) investigated the effects of processing instruction on the acquisition of gender agreement of adjectives in Italian. As we have already pointed out this feature is affected by the Preference for Nonredundancy Principle (P1c) and the Meaning-before-Nonmeaning Principle (P1d). The main purpose of this study was to measure the effect of enhanced (textually and aurally) and unenhanced structured input practice. Twenty university beginners students of Italian were assigned to two groups: structured input activities group and enhanced structured input activities group. A pre- and

post-test procedure was adopted with immediate post-test. Two assessment tasks were used (interpretation and production sentence level tasks). The sentence level aural interpretation task consisted of twenty audio-taped sentences. Ten sentences were critical items and the other ten sentences served as distracters. All sentences contained frequently used items and familiar vocabulary for the students' level. Participants were required to listen to each sentence and to select a matching answer or an "I'm not sure" option. A correct answer scored one point and an incorrect answer scored zero points. The possible total score ranged between zero points and ten points. Distracters were not scored. The results of the interpretation task revealed that both the structured input activities group and the enhanced structured input activities group made equal improvements. The sentence level written production task consisted of ten items in a short passage. Participants were required to fill in the blanks in the short passage by producing the appropriate form of the adjective in brackets. A correct answer scored one point and an incorrect answer scored zero points. The possible total score ranged between zero points and ten points. The results of the production task showed that both the structured input activities group and the enhanced structured input activities group made equal improvements. The overall outcomes of this study confirmed that enhanced and unenhanced structured input activities are equally effective in promoting second language acquisition.

In the same line of research intended to measure possible effects of enhanced structured input activities, Lee and Benati (2007b) investigated the relative effects of enhanced and unenhanced structured input practice on the acquisition of the future tense in Italian. This grammatical feature is affected by the Lexical Preference Principle (P1b). Twenty university students (all native speakers of English) who were studying Italian participated in this study. The participants were randomly assigned to two different treatment groups: the structured input activities group and the enhanced structured input activities group. A pre- and post-test procedure was adopted with immediate post-test. Two different assessment tasks were developed (interpretation and production sentence level

task). The sentence level aural interpretation task contained twenty sentences. Ten sentences in the future tense served as critical items and the other ten sentences in the present tense served as distracters. All sentences contained frequently used items and familiar vocabulary for the students' level. Participants were required to listen to each sentence and to select an appropriate answer from "present", "future" or "could not tell". A correct answer scored one point and an incorrect answer scored zero points. The possible total score ranged between zero points and ten points. Distracters were not scored. The results of the interpretation task revealed that the structured input activities group and the enhanced structured input activities group equally made improvements. The sentence level written production task contained ten items in a text. Participants were required to complete the text with the future tense of the verbs in the brackets. A correct answer scored one point and an incorrect answer scored zero points. The possible total score ranged between zero points and ten points. The results of the production task showed that the structured input activities group and the enhanced structured input activities group equally improved their performance. The results of this study confirmed the findings obtained in Lee and Benati (2007a).

In the attempt to measure possible transfer-of training effects for processing instruction, Benati and Lee (2008) examined whether learners receiving processing instruction on the acquisition of noun-adjective gender agreement in Italian can transfer this training effects to the acquisition of Italian future tense verb morphology. Both grammatical features are affected by similar processing principles (the noun-adjective agreement is affected by the Preference for Nonredundancy Principle (P1c) and the future tense verb morphology is affected by the Lexical Preference Principle (P1b)) and this study was conducted to ascertain as to whether learners receiving processing instruction in one grammatical feature can transfer this instructional training to another feature affected by the same or similar processing problem. The investigation was carried out with twenty five participants. All participants (English native speakers) were studying Italian in a university

programme. Participants were randomly assigned to three groups: processing instruction group, traditional instruction group and the control group. The assessment tasks were carried out in pre-test, immediate post-tests design. Two different assessment tasks were developed for each target item (interpretation and production sentence level tasks). The sentence level aural interpretation task for the primacy linguistic target item (noun-adjective agreement) contained twenty sentences. Ten items were critical items and the other ten items served as distracters. All sentences contained frequently used items and familiar vocabulary for the students' level. Participants were required to listen to sentences describing a person or object and to determine which person is described. They could select between two pictures and a "not sure" option. A correct answer scored one point and incorrect and not sure answers scored zero points. The possible total score ranged between zero points and ten points. Distracters were not scored. The sentence level aural interpretation task for the second linguistic target item (future tense) consisted of twenty sentences, of which ten included critical items and the other ten were distracters. Participants were required to listen to sentences relating information about the present or the future and to select an appropriate answer, either present or future. They were also given a "not sure" option. The scoring of the test was the same as in the primary task. The results of the primary effect revealed that the processing instruction group performed better than the traditional instruction group and the control group. The results relating to the main purpose of the study, that is the secondary transfer of training effects, showed that the processing instruction group performed better than the traditional instruction group and the control group, while the traditional instruction group and the control group were not different from each other. The sentence level written production task for the primacy linguistic target item (noun-adjective agreement) consisted of ten items in the short passage. Participants were required to complete a short passage by producing the correct form of the adjective provided in brackets. A correct answer scored one point and an incorrect answer scored zero points. The possible total score ranged between zero points and ten points. The

sentence level written production task for the second linguistic target item (future tense) contained a text with ten incomplete sentences. Participants were required to complete the text with the correct future forms of verbs provided in brackets. Scoring of the task was the same as in the primary task. The results of the primary effect confirmed that both the processing instruction group and the traditional instruction group improved equally, whereas the control group made no improvement. The results relating to the main purpose of the study, that is measuring secondary transfer-of-training effects, showed that the processing instruction group performed better than the control group, whereas the processing instruction group and the traditional instruction group were not different from each other. The results of this study showed that processing instruction has secondary effects as learners who received processing instruction were able to transfer that training to processing and producing another form of which they have received no instruction.

Study	Research	Mode	Task	Contents	Level
Cadierno (1995)	PI vs TI	Aural	Matching answer selection	20 sentences 10target items 10 distracters	Sentence Level
Benati (2004a)	SI vs EI	Aural	Matching answer selection	20 sentences 10 target items 10 distracters	Sentence Level
Benati (2004b)	SI vs EI	Aural	Correct pictures Selection	20 sentences 10 target items 10 distracters	Sentence Level
Lee,Benati Sánchez & McNulty (2007)	PI in classroom vs computer	Visual	Matching answer selection	10 target items (task1) 11 target items (task 2)	Sentence Level
Lee & Benati (2007a)	SI vs Enhanced SI	Aural	Matching answer selection	20 sentences 10 target items 10 distracters	Sentence Level
Lee & Benati (2007b)	SI vs Enhanced SI	Aural	Matching answer selection	20 sentences 10 target items 10 distracters	Sentence Level
Benati & Lee (2008)	PI vs TI secondary effects	Aural	Matching answer selection	20 sentences 10 target items 10 distracters	Sentence Level

Table 3.3 Interpretation sentence level tasks (perceptual strategies), EI, explicit instruction PI, processing instruction; SI, structured input; TI, traditional instruction

Semantic strategies

As part of a different line of research which has attempted to compare processing instruction to meaning-based output instruction, Farley (2001a) investigated the effects of processing instruction on the acquisition of the present tense subjunctive of doubt in Spanish. This grammatical feature is affected by the Lexical Preference Principle (P1b) and the Sentence Location Principle (P1f). In the following sentence of Spanish *No creo que ella venga a la fiesta* (I doubt she will come to a party), Spanish subjective of doubt is a verb phrase "*No creo que*" (I doubt) and expresses meaning. The subjunctive verb inflection (*-a* in *venga*) is redundant and it occurs in the middle of the sentence. The subjunctive of doubt is affected by a combination of processing principles: the Lexical Preference Principle (P1b) and the Sentence Location Principle (P1f). This investigation was carried out with twenty nine students. All participants (English native speakers) were in the fourth year of a university programme. Participants were randomly assigned to two groups: the processing instruction group and the meaning-based output instruction group. A pre- and post-test procedure was adopted using both immediate and delayed post-tests. The delayed post-test was administered one month after the first post-test. Two assessment tasks were used (interpretation and production sentence level tasks). The sentence level aural interpretation task contained a series of twenty one sentences in which the main clause was blank. Nine items were a trigger for the subjunctive (target item), three items were a trigger for the indicative and twelve items served as distracters. All sentences contained frequently used items and familiar vocabulary items. Participants were required to listen to a series of utterances and select between two main clauses provided on the answer sheets to complete each sentence. A correct answer received one point and an incorrect answer or blank response scored zero points. The possible total score ranged from zero points to nine points. The results of the interpretation task revealed that the processing instruction group performed better than the meaning-based output instruction group. The positive effects of processing instruction were also maintained in the delayed post-test. The

sentence level written production task consisted of twenty sentences. Twelve sentences were target items (nine were subjunctive) and eight items were distracters. Participants were required to complete the sentence using an appropriate form of the infinitive verb in the bracket. A correct answer scored one point and an incorrect answer or blank response scored zero points. The possible total score ranged from zero points to nine points. The results of the production task revealed that both the processing instruction group and the meaning-based output instruction group improved equally. These improvements were maintained in the delayed post-test. The overall outcomes of this study showed that processing instruction is a more effective approach to grammar instruction than meaning-based output instruction on the Spanish subjective of doubt.

Farley (2001b and 2004a) replicated this study (Farley 2001a) using the same linguistic (subjunctive of doubt in Spanish). Fifty university students (all native speakers of English) who were studying Spanish participated in this study. The participants were randomly assigned to two groups: the processing instruction group and the meaning-based output instruction group. The same pre- and post-test procedure was adopted. A delayed post-test was carried out two weeks after the first post-test. The same different assessment tasks were used (interpretation and production sentence-level tasks). The results of the interpretation task revealed that the processing instruction and the meaning-based output instruction groups improved equally. These improvements were maintained in the delayed post-test. The results of the production task revealed that both the processing instruction and the meaning-based output instruction groups equally made improvements. These improvements were maintained in the delayed post-test. The findings of this study showed that processing instruction and meaning-based output instruction were equally effective in helping learners to interpret and produce sentences containing the targeted feature. Farley (2004a) has further analysed the results of subjunctives data. This result showed that the improvement was evident on regular, irregular and novel subjunctives of both the interpretation and production tasks.

As a conceptual replication of VanPatten and Oikiennon (1996), Farley (2004b) conducted a further investigation to measure the effects of processing instruction on the acquisition of the subjunctive of doubt in Spanish. Fifty four university students (all native speakers of English) who were in their fourth year of a Spanish course participated in the study. The participants were randomly assigned to two groups: the processing instruction group and the structured input group. The assessment tasks were administered in a pre-test, immediate post-test and delayed post-test design. A delayed post-test was carried out two weeks later. Two different assessment tasks were developed (interpretation and production sentence level tasks). The sentence level aural interpretation task contained twenty four items in which nine items were triggers for the subjunctive as target items, three items were triggers for the indicative and twelve items served as distracters. All sentences contained frequently used items and familiar vocabulary items. Participants were required to listen to a series of utterances and selected between two main clauses provided on the answer sheets to complete each sentence. A correct answer scored one point and an incorrect answer or blank response scored zero points. The possible total score ranged between zero points and nine points. The results of the interpretation task revealed that the processing instruction group performed better than the structured input group. These improvements were maintained in the delayed post-test. The sentence level written production task contained twenty one sentences in which six items were a trigger for the subjunctive as target items, three items were a trigger for the indicative and twelve items served as distracters. Participants were required to complete the sentences utilising an appropriate form of the infinitive verb in brackets. A correct answer scored one point and an incorrect subjunctive form or blank response scored zero points A correct subjunctive form of the wrong verb scored a half point. The possible total score ranged from zero points to six points. The results of the production task revealed that the processing instruction group outperformed the structured input group. These improvements were maintained in the delayed post-test. The results of this study showed that processing

instruction outperformed the structured input practice group. These different findings were attributed by Farley to the complexity of the targeted linguistic feature.

Within the same line of research intended to compare processing instruction and its components, Wong (2004b) investigated the relative effects of processing instruction on the acquisition of negation in French. This grammatical feature is affected by the Lexical Preference Principle (PIb). In the following sentence in French Chris *n'a pas d'oiseau* (Chris does not have a bird), when a statement is negative, the form "*ne ....pas"* is added to the verb and "*de /d'"* precedes the noun. "*Ne...pas"* expresses negation, while "*de/d'"* has no semantic value. Therefore learners tend to skip over the form "*de/d'"*. Ninety four university students (all native speakers of English) who were studying French participated in this study. The participants were assigned to four groups: the processing instruction group; the structured input activities only group; the explicit information only group; and the control group. A pre and post-test procedure was adopted. Two different assessment tasks were used (interpretation and production sentence level tasks). The sentence level aural interpretation task consisted of twenty items in which ten of them were critical items and the other ten items served as distracters. Participants were required to listen to the second part of a series of sentences and select the appropriate phrase to complete each sentence. A correct answer scored one point and an incorrect answer scored zero points. The possible total score ranged from zero points to ten points. Distracters were not scored. The results of the interpretation task revealed that the processing instruction and structured input only groups outperformed the explicit information only groups. The control group did not improve. The sentence level written production task contained twelve items in which six items were critical items and other six items served as distracters. Participants were required to fill in the blank with the appropriate article to complete each sentence with the corresponding English translation. A correct answer scored one point and an incorrect answer scored zero points. The possible total score ranged from zero points to six points. The results of the production task revealed that the processing instruction group

performed better than the explicit information group. There was no difference between the processing instruction group and the structured input only group. Both instructional groups were better than the explicit information group. The control group did not improve. The overall outcomes of this study strengthen the evidence regarding the positive effects of structured input activities in a different romance language (French) and linguistic feature.

Benati (2005) investigated the relative effects of processing instruction on the acquisition of the past simple tense in English. In the following sentence "Yesterday I played tennis'' the lexical item "Yesterday" and the verb morphology "-ed in played" encode the same semantic information. According to the Lexical Preference Principle (P1b), learners tend to rely on lexical items to get meaning (the Lexical Preference Principle). Forty seven students who were secondary school students studying English in China and thirty participants studying English at secondary school in Greece participated in this study. Participants in China and Greece were randomly assigned to three groups: the processing instruction group, the traditional instruction group and the meaning-based output instruction group. The same pre- and post-test procedure utilised in the previous studies was used. Two different assessment tasks were used (interpretation and production sentence level tasks). The sentence level aural interpretation task consisted of twenty sentences. Ten sentences in the simple past tense saved as critical items and the other ten sentences were in the present tense served as distracters. All sentences contained frequently used items and familiar vocabulary. Participants were required to listen to each sentence and determine whether the action was taking place in the past or in the present. A correct answer scored one point and an incorrect answer scored zero points. The possible score ranged from zero points to ten points. Distracters were not scored. The data from this parallel study (Chinese and Greek population) revealed that the processing instruction group performed better than the traditional instruction group and the meaning-based output instruction group. The sentence level written production task contained ten sentences. Participants were required to look at ten pictures and produce a correct past tense sentence

using the verb provided in brackets. A correct answer scored one point and an incorrect answer scored zero points. The possible scores ranged from zero points to ten points. The results from both data showed that the three groups performed equally well. Overall, the findings of this study strengthen the evidence from previous studies that processing instruction is better grammatical instruction than traditional instruction and meaning-based output instruction.

Lee and Benati (2007d) conducted an empirical study investigating the effects of processing instruction on the acquisition of the subjunctive of doubt in French. The grammatical feature is affected by the Lexical Preference Principle (P1b) and the Sentence Location Principle (P1f). In the following sentence of French *Je doute qu'elle prenne des vacances* (I doubt she will take any holidays), the word "*doute*" expresses the idea of doubt in the sentence. The subjunctive verb inflection "*prendre* change to *prenne*" is redundant. In addition, the word "*prenne*" appears in medial position. This study examined the effects of different modes of delivering processing instruction. Forty seven university students (all native speakers of English) who were studying French participated in this study. The participants were randomly assigned to four groups: the processing instruction in classroom group, the processing instruction with computer group, the meaning-based output instruction in classroom group and the meaning-based output instruction with computer group. The assessment tasks were administered in a pre-test and post-test design. Two different assessment tasks were developed (interpretation and production sentences level tasks). The sentence level aural interpretation task consisted of twenty sentences. Ten sentences were critical items and the other ten sentences served as distracters. All sentences contained frequently used items and familiar vocabulary for the students' level. Participants were required to listen to the end of sentences and select the appropriate beginning for the sentences. A correct answer scored one point and an incorrect answer scored zero points. The possible total score ranged from zero to ten points. Distracters were not scored. The results from the data showed that the processing instruction in classroom

and processing instruction with computer groups performed better than the meaning-based output instruction in classroom and meaning-based output instruction with computer groups. The sentence level written production task contained ten sentences. Participants were required to transform each sentence into the subjunctive form. A correct answer scored one point and an incorrect answer scored zero points. The possible total score ranged from zero to ten points. The results revealed that four groups improved equally on the production task. The overall outcomes of this study confirmed that different instructional modes (computer or classroom) delivered the effects of processing instruction equally.

Within the same line of research intended to measure possible effects for online delivery of processing instruction. Lee and Benati (2007e) investigated the effects of processing instruction on the acquisition of the subjunctive of doubt and opinion in Italian. This grammatical feature is affected by a combination of processing principles: the Preference for Nonredundancy Principle (P1c) and the Sentence Location Principle (P1f). In the following sentence in Italian *Non penso che parli bene francese* (I doubt that she/he will speak French well), "*Non penso*" expresses doubt and the subjunctive verb inflection (*-i* in *parli*) is redundant in the sentence. Forty seven university students (all native speakers of English) studying Italian participated in this study. The participants were randomly assigned to four groups: the processing instruction in classroom group, the processing instruction with computer group, the meaning-based output instruction in classroom group and the meaning-based output instruction with computer group. The assessment tasks were carried out in a pre-test and post-test design. Two different assessment tasks were used (interpretation and production sentence level tasks). The sentence level aural interpretation task consisted of twenty sentences. Ten sentences were critical items and the other ten sentences served as the distracters. All sentences contained frequently used items and familiar vocabulary which was adequate to the proficiency level of participants. Subjects were required to listen to the end of sentences and select the

appropriate beginning for the sentences. A correct answer scored one point and an incorrect answer scored zero points. The possible total score ranged from zero points to ten points. Distracters were not scored. The results of the interpretation task showed that the processing instruction in classroom group and with computer group equally made improvements. Both modes of processing instruction groups performed better than the both modes of meaning-based output instruction groups. The sentence level written production task contained ten sentences. Participants were required to transform each sentence in the subjunctive form. A correct answer scored one point and an incorrect answer scored zero points. The possible total score ranged from zero points to ten points. The results of production task revealed that four groups equally made improvements. The overall findings of the study showed that no matter the mode of delivery, learners received processing instruction performed better than learners who received meaning-based output instruction in the interpretation task, and the processing instruction group produced equally the target form as those who received meaning-based output instruction.

Benati, Lee and Houghton (2008) examined whether learners received processing instruction on the past tense in English can transfer this training to the acquisition of the third person singular present tense. The primary target item (past tense) is affected by the Lexical Preference Principle (P1b). The second target item (third person singular) is affected the Lexical Preference Principle (P1b) and the Preference for Nonredundantcy Principle (P1c). In the following English sentence "She goes to school", the third person "-s in goes" is a functional form and it has very little communicative value. The subject "she" and grammatical form "-s" convey the same meaning thus "-s" is redundant. Twenty six participants were the subjects of this investigation. All participants (Korean naive speakers) were studying beginner level English in a middle school in Korea. They were randomly assigned to two groups: the processing instruction group and the traditional instruction group. The pre- and post-tests procedure was used in this study. Two different assessment tasks were developed (interpretation and production sentence level tasks). The

sentence level aural interpretation task for the primacy linguistic target item (past tense) contained twenty sentences. Ten items were target items and the other ten items served as distracters. Frequently used items and familiar vocabulary were used in the sentences. Participants were required to listen to the sentence and decide whether the action occurred in the present or in the future. They were also given a "not sure" option. A correct answer scored one point and incorrect and "not sure" answers scored zero points. The possible total score ranged from zero points to ten points but distracters were not included in the score. The sentence level aural interpretation task for the second linguistic target item (third person singular) consisted of twenty sentences of which ten were target items, while the other ten were distracters. Participants were required to listen to the sentences and decide which sentences relate to the third person singular. There was also a "not sure" option. A correct answer scored one point and incorrect and "not sure" answers scored zero points. The possible total score ranged from zero points to ten points. Distracters were not used in the scoring. The primary effects results revealed that the processing instruction group performed better than the traditional instruction group. The secondary effects result showed that the processing instruction group performed better than the traditional instruction group and only the processing instruction group made improvements. In the sentence level written production task for the primacy linguistic target item (noun-adjective agreement), participants were required to fill in the gaps with the correct form. The infinitive verb was provided in brackets. There were ten items in the text. A correct answer scored one point and an incorrect answer scored zero points. The possible total score ranged from zero points to ten points. The sentence level written production task for the second linguistic target item (third person singular) contained a text with ten incomplete sentences. Participants were required to fill in the blanks with the correct verb form. The infinitive verb was provided in the brackets. A correct answer scored one point and an incorrect answer scored zero points. The possible total score ranged from zero points to ten points. The results of the primary effect confirmed that both the processing

instruction group and the traditional instruction group equally made improvements. The data from the secondary transfer of training effects revealed that only the processing instruction group made improvement. The findings of this study confirmed that the training effects of processing instruction when learners focussed on a primary target grammatical form was transferable to a second target grammatical form affected by the same processing problem.

The transferable effects of processing instruction research were also investigated by Benati, Lee and Laval (2008). They examined whether learners receiving processing instruction on the French imperfect tense can transfer this training to the acquisition of the subjunctive of doubt (secondary effects). This study also examined whether learners receiving processing instruction on the French imperfect tense can transfer this training to the acquisition of causative construction (cumulative effects). The primary linguistic item in this study was the French imperfect. In the following sentence of French *La semaine dernière elle a pris des vacances* (Last week, she took a holiday), both lexical item "*La semaine dernière*" and verb "*pris*" indicate the past (Lexical Preference Principle). The secondary target item was the subjunctive of doubt. The third linguistic item was the causative construction with *faire*. Thirty university students (all native speakers of English) who were intermediate level of French participated in this study. The participants were randomly assigned to three groups: the processing instruction group, the traditional instruction group and the control group. The assessment tasks were carried out in a pre-test and post-test design. Two different assessment tasks were developed for each target item (interpretation and production sentence level tasks). The sentence level aural interpretation task for the primacy linguistic target (imperfect tense) consisted of twenty items. Ten items were critical items and the other ten items served as distracters. Participants were required to listen to the sentence describing an action and decide whether the tense represented a present or past action. In addition, there was a "not sure" option. All sentences contained frequently used items and familiar vocabulary suitable for the proficiency level of the

subjects. A correct answer scored one point and incorrect and not sure answers scored zero points. The possible total score ranged from zero points to ten points. Distracters were not scored. The sentence level aural interpretation task for the second linguistic target (subjunctive) contained twenty items. Ten sentences were critical items and the other ten sentences were distracters. Participants were required to listen to the sentence and select an appropriate beginning for the sentence. They were given a "not sure" option. Scoring of the task was the same as for the primary task. The sentence level aural interpretation task for the cumulative target (causative) consisted of twenty sentences in which ten sentences contained critical items and ten sentences were distracters. Participants listened to each sentence to determine who was doing the action in each sentence. They were given a "not sure" option. The scoring of the test was the same as the primary task again. The primary effects results revealed that the processing instruction group performed better than the traditional instruction group and the control group. The secondary and cumulative effects results also showed that the processing instruction group performed better than the traditional instruction group and the control group. The sentence level written production task for the primary linguistic target (imperfect tense) contained a short passage including ten blanks. Participants were required to fill in the blanks by producing the correct form of the verb. The score consisted of zero to two points system and the maximum score was twenty points. The sentence level written production task for the second linguistic target (subjunctive) contained ten sentences with blanks followed by the infinitive form of verb. Five sentences were critical items and the other five items served as distracters. Participants were required to complete the sentences using an appropriate form of the verb. The score consisted of the zero to two points system and the maximum score was ten points. The sentence level written production task for the cumulative target (causative) consisted of ten sentences in which five items were critical items and the other five items served as distracters. Participants were required to look at a picture and complete the sentence to describe who was doing the action. The score consisted of the zero to two

points system and the maximum score was ten points. The primary effects results revealed that both the processing instruction group and the traditional instruction group made equal improvements, whereas the control group did not improve. The secondary and cumulative effects results showed that the processing instruction group performed better than the traditional instruction group and the control group.

The results of this study confirmed that the training effects of processing instruction when learners focused on a primary target grammatical form was transferable to a second target grammatical form affected by the same or different processing problems.

Summary

The sixteen studies reviewed in this section have measured the effects of processing instruction at altering perceptual and semantic strategies and related processing principles and sub-principles (the Primacy of Meaning Principle (P1), the Lexical Preference Principle (P1b), the Preference for Nonredundancy Principle (P1c), the Meaning-before-Non Meaning Principle (P1d) and the Sentence Location Principle (P1f)). The nature of the interpretation task utilised in the eighteen studies is summarised in Table 3.2 and Table 3.3. These tables show that all interpretation tasks were sentence level tasks containing target features and distracters. Those were mainly aural tasks. In the empirical studies reviewed, the main feature of the interpretation tasks is that learners were required to select correct word, clause or picture. The overall findings from these eighteen studies showed that processing instruction is an effective approach to alter learners' inappropriate processing strategies and affects the way L2 learners interpret and produce target grammatical features correctly at sentence level.

Study	Research	Mode	Task	Contents	Level
Farley (2001a)	PI vs MOI	Aural	Correct clauses selection	21 sentences 9 target items 12 distracters	Sentence Level
Farley (2001b, 2004a)	PI vs MOI	Aural	Correct clauses selection	24 sentences 9 target items 3 different sentences 12 distracters	Sentence Level
Farley (2004b)	PI vs SI	Aural	Correct clauses selection	24 sentences 9 target items 3 different sentences 12 distracters	Sentence Level
Wong (2004b)	EI vs SI	Aural	Correct phrase selection	20 sentences 10 target items 10 distracters	Sentence Level
Benati (2005)	PI vs MOI	Aural	Matching answer selection	20 sentences 10 target items 10 distracters	Sentence Level
Lee & Benati (2007d)	PI vs MOI classroom vs computer	Aural	Correct answer Selection	20 sentences 10 target items 10 distracters	Sentence Level
Lee & Benati (2007e)	PI vs MOI classroom vs computer	Aural	Correct answer Selection	20 sentences 10 target items 10 distracters	Sentence Level
Benati, Lee & Houghton (2008)	PI vs TI secondary effects	Aural	Matching answer selection	20 sentences 10 target items 10 distracters	Sentence Level
Benati, Lee & Laval (2008)	PI vs TI secondary effects	Aural	Matching answer selection	20 sentences 10 target items 10 distracters (primary effect) 10 sentences 5 target items 5 distracters (secondary, cumulative)	Sentence Level

Table 3.4 Interpretation sentence level tasks (The semantic strategy). EI, explicit information; MOI, meaning-based output instruction; PI, processing instruction; SI, structure input; TI, traditional instruction.

3.3 The effects of processing instruction at discourse level

VanPatten and Sanz (1995) were the first researchers who attempted to investigate the effects of processing instruction on discourse level production tasks using direct object

pronouns in Spanish. This grammatical feature is affected by the First Noun Principle (P2). All production discourse level tasks were developed in two different modes: written and oral. Forty four university students (all native speakers of English) who were studying Spanish participated in this study. The participants were randomly assigned to two groups: the processing instruction group and the control group. A pre- and post-test procedure was adopted with an immediate post-test. The sentence level interpretation task contained twenty six sentences of which twenty sentences were critical items and six sentences were distracters. Frequently used items and familiar vocabulary were in the sentences. Participants were required to listen to each sentence and select a matching picture for each sentence from the two similar pictures. The two pictures represented the same actions but the difference was who the agent was and who the patient was. This material used in this study was the same as in VanPatten and Cadierno's (1993) study. A correct picture selection scored one point and an incorrect picture selection scored zero points. The possible total score ranged from zero points to twenty points. The results of the interpretation task revealed that the processing instruction group made improvement, while the control group did not. The effects of the processing instruction on the target item were measured by three different production tasks such as sentence completion, structured interview, and discourse level video narration. All assessment tasks were presented in two different modes: written and oral. The sentence level production task named the sentence completion task, consisted of fourteen items of which eight sentences were critical items and six sentences were distracters. Each item consisted of two parts of sentences corresponding with pictures. The second part of each sentence was incomplete. The picture was a visual cue for each sentence. Participants were required to produce a phrase to describe the second picture. In the other sentence level production task, named the structured-interview task, the participants were required to answer eleven questions based on what they saw in a series of seven pictures. The video narration task consisted of a storytelling task and a discourse level production task. Participants were required to watch

seven series of video clips and to describe a story in as much detail as possible so that students from other classes could recognise the video based on the description. Participants were allowed to watch the video clip twice. Each participant could produce a different number of target items. The three production tasks were executed in a written mode and an oral mode. The scores of the three production tasks were transformed into ratios. The results revealed that the processing instruction group outperformed the control group on the sentence completion task and the structured-interview task. The score for the written mode was better than the oral mode on both tasks. In the video narration task, the processing instruction group performed better than the control group. The written and oral modes did not score significantly different on the video narration task. The overall outcomes of this study showed that processing instruction is still effective even when measured on less controlled and on discourse level production tasks. Processing instruction is not only effective at improving learners' performance at sentence level but also at discourse level production tasks.

Benati (2001) conducted an investigation measuring the effects of processing instruction on the acquisition of Italian future tense verb morphology. The grammatical feature is affected by the Lexical Preference Principle (P1b). Learners tend to rely on lexical items to get meaning. The main purpose of this study was to investigate whether the positive effects of processing instruction were operative in more communicative and discourse oriented types of task. Thirty nine university students (all native speakers of English) who were studying Italian participated in this study. The participants were randomly assigned to three groups: the processing instruction group, the traditional instruction group and the control group. The assessment tasks were administered in a pre-test, immediate post-test and delayed post-test design. The delayed post-test was carried out three weeks after the first post-test. The sentence level aural interpretation task contained twenty sentences in which ten sentences were target items and the other ten sentences served as distracters. All sentences contained frequently used items and familiar

vocabulary for the students' level. Participants were required to listen to each sentence and determine whether the sentence indicated an action which was taking place now or in the future. A correct answer scored one point and an incorrect answer scored zero points. The possible total score ranged from zero to ten points. Distracters were not scored. The results of the interpretation task revealed that the processing instruction group outperformed the traditional instruction group and the control group. The positive effects of processing instruction were maintained in the delayed post-test. The sentence level written production task consisted of five sentences. Participants were required to complete each sentence using the future tense from an infinitive which was provided in brackets. In the oral discourse level production task, a sequence of five pictures representing a story was provided. Participants were required to produce a sentence including the future tense to represent a sequence of five pictures. They were given two minutes to audio record their stories. The possible total score for the written and oral production tasks ranged from zero points to ten points. A correct answer scored two points, a partially correct answer scored one point and an incorrect answer scored zero points. The results of the written and oral production tasks revealed that both the processing instruction group and the traditional instruction group improved equally, whereas the control group did not. The positive effects of processing instruction were maintained in the delayed post-test. The results of this study showed that processing instruction is still effective even when measured on less controlled and on discourse level production tasks and these positive effects were maintained over a three weeks period.

Cheng (2002 and 2004) conducted a study investigating the effects of processing instruction on the two copular verbs (*ser* and *estar*) in Spanish. This grammatical feature is affected by the Lexical Preference Principle (P1b) and the Preference for Nonredundancy Principle (P1c). The copular verbs (*ser and estar*) have no inherent semantic meanings and are redundant in the sentence. The main purpose of this study was to investigate whether the positive effects of processing instruction are operative in more communicative and

discourse oriented different types of tasks. Eighty three students (all native speakers of English) who were studying Spanish participated in this study. The participants were randomly assigned to three groups: the processing instruction group, the traditional instruction group and the control group. A pre- and post-test procedure was used in this study. The delayed post-test was executed three weeks after the instructional period. The sentence level interpretation task consisted of aural task of ten target items. Four sentences used *ser* and six sentences used *estar*. All sentences consisted of frequently used items and familiar vocabulary. Participants were required to match a sentence with a picture and match a sentence with a situation written in English. A correct answer scored one point and an incorrect answer scored zero points. The possible total score ranged from zero points to ten points. The results of the interpretation task revealed that the processing instruction group and the traditional instruction group performed better than the control group. The results also indicated that the processing instruction group made improvement on the immediate post-test but the score declined on the delayed post-test. The sentence level written production task contained ten target items. Four sentences used *ser* and six sentences used *estar*. The participants were required to complete each sentence using *ser* or *estar*. A correct answer of the target item scored one point and an incorrect answer of the target item scored zero points. The possible total score ranged from zero points to ten points. The sentence level production task resulted that the processing instruction group and the traditional instruction group performed better than the control group. Both the processing instruction and the traditional instruction groups maintained their improvement in the delayed post-test. The discourse level written task was a guided composition task. Participants were required to describe a series of four pictures to make a story. Twelve key adjectives were provided with each drawing. Participants were instructed to use the twelve adjectives, five requiring "*ser*" and seven requiring "*estar"* in their compositions. The results of the guided composition task revealed that the processing instruction group and the traditional instruction group performed better than the control group. Both the

processing instruction group and the traditional instruction group maintained their improvement in the delayed post-tests. Cheng (2004) has further analysed the results of the guided composition data. The data analysis showed that both processing instruction group and traditional instruction group equally produced tokens of *estar.* The overall outcomes of this study provided further evidence on the positive effects of processing instruction in discourse oriented types of production task.

Sanz (2004) conducted to measure the possible effects of processing instruction on the acquisition of OVS and OV sentences in Spanish. This grammatical feature is affected by the First Noun Principle (P2). The main purpose of this study was to compare the effect of implicit feedback with that of explicit feedback in online structured input activities. The implicit feedback consisted of a computer response of "correct" or "incorrect" immediately after participants chose an answer. The explicit feedback provided the possible source of error. Fifty three university students (all native speakers of English) who were studying Spanish participated in this study. The participants were randomly assigned to two groups: the implicit feedback group and the explicit feedback group. The assessment tasks were administered in a pre-test and immediate post-test design. The material, assessment tasks and scoring procedure that VanPatten and Sanz (1995) produced and used for their investigation, were utilised in the case of this study. However, the production task was only in written mode. The sentence level interpretation task contained twenty six sentences of which twenty sentences were critical items and six sentences were distracters. Frequently used items and familiar vocabulary were used in the sentences. Participants were required to listen to each sentence and select a matching picture for each sentence from two similar pictures. The two pictures represented the same actions but the difference was who the agent was and who the patient was. The results of the interpretation task revealed that the implicit feedback and explicit feedback groups improved equally. The type of feedback did not produce different effects on the sentence level interpretation task. The sentence completion task (sentence level production task) consisted of fourteen items

of which eight sentences were critical items and six sentences were distracters. Each item consisted of two partial sentences corresponding with pictures. The second part of each sentence was incomplete. The picture was a visual cue for each sentence. Participants were required to produce a phrase to describe the second picture. In the structured-interview task (sentence level production task), the participants were required to answer eleven questions based on what they saw in a series of seven pictures. The scores of these sentence level production tasks were transformed into ratios. The results of the sentence completion task and the structured interview task revealed that the implicit feedback and explicit feedback groups improved equally. The type of feedback did not produce different effects on the sentence level production tasks. In the discourse level video narration task, participants were required to watch seven series of video clips to describe a story in as much detail as possible so that students from other classes could recognise the video based on the description. Participants were allowed to watch the video clip twice. Each participant could produce a different number of the target items. The score of this discourse level production task was transformed into ratios. The results of the video narration task revealed that both the implicit feedback and the explicit feedback groups improved equally. The type of feedback did not show the different effect on the discourse level production task. The results of this study showed that the type of feedback did not produce different effects on the sentence level interpretation and production tasks, and discourse level production task. These findings proved that structured input practice itself was the causative variable for learners' improvement in interpretation and production sentence level tasks, and production discourse level task.

Study	Research	Mode	Task	Contents	Level
VanPatten & Sanz (1995)	PI on the discourse level	Aural	Correct picture selection	26 sentences 20 target items 6 distracters	Sentence Level
Benati (2001)	PI vs TI	Aural	Correct answer selection	20 sentences 10 target items 10 distracters	Sentence Level
Cheng (2002, 2004)	PI vs TI	Aural	Correct picture and answer selection	10 sentences 4 *sea* 6 *estar*	Sentence Level
Sanz (2004)	Implicit feedback vs Explicit feedback	Aural	Correct picture selection	26 sentences 20 target items 6 distracters	Sentence Level

Table 3.5 Interpretation sentence level tasks in the effects of processing instruction at discourse level. PI, processing instruction; TI, traditional instruction

Summary

The four studies which have explored the effects of processing instruction on discourse level production tasks were reviewed in this section. Discourse level production tasks (video narration) written and oral mode were developed in the study of VanPatten and Sanz (1995). Benati (2001) and Cheng (2002) also developed type of discourse level tasks. The nature of these four tasks are summarised in Tables 3.4. This table clearly shows that the four interpretation tasks were all sentence level tasks containing target features and distracters. Aural tasks were used in the study of VanPatten and Sanz (1995), Cheng (2001), Benati (2001) and Sanz (2004). The main characteristic of the interpretation tasks in the empirical studies reviewed was that learners were required to select either a picture or a word. The overall findings from these four studies revealed that processing instruction effectively helps learners alter inappropriate processing strategies so that learners process more optimal input and produce discourse used target linguistic feature. Processing instruction is an effective input-based instruction even when measured on discourse level production tasks written and oral mode.

3.4 The results of assessment tasks on the durable effects of processing instruction

In the previous studies, some research attempted to measure the durable effects of processing instruction over one week, two weeks, three weeks, or over month. This durable effects of processing instruction research used a pre-test, post-test to delayed post-test design and examined by sentence level interpretation and sentence to discourse level production tasks.

The results of assessment tasks on the durable effects of processing instruction after one week

VanPatten and Cadierno (1993) investigated the relative effects of processing instruction on the acquisition of Spanish direct object pronouns affected by the First Noun Principle (P2). In this study, the results showed that the processing instruction group improved their scores in the sentence level interpretation by 64% and the production by 67%. These results were maintained over one week. However, learners' performance decreased in the delayed post-test by 9% in the interpretation task and by 7% in the production task.

Similar results were gained in the study of Morgan-Short and Bowden (2006), which examined the effectiveness of processing instruction on the acquisition of Spanish preverbal direct object pronouns affected by the First Noun Principle (P2). This study concluded that processing instruction was beneficial for L2 learners' improvement of sentence level interpretation (67%) and production (31%) of preverbal direct object pronouns in Spanish. These results were maintained over one week. However, these improvements' rate decreased in the delayed post-test both for the interpretation (5%) and the production (5%) measurements.

In Lee and Benati (2007c), the effectiveness of processing instruction on the acquisition of Japanese past tense was investigated. The findings of this study showed that the structured input group improved 52% in the sentence level interpretation task and 43%

in the production tasks from pre-test to post-test. These gains lasted one week. As in the previous studies, the gains diminished in both tasks (interpretation (8%) and production (5%)).

Lee, Benati, Sánchez and McNulty (2007) investigated the possible effects of processing instruction on the acquisition of the *preterite*/imperfect distinction and the negative informal commands in Spanish using only sentence level interpretation tasks. These grammatical features are affected by both the Sentence Location Principle (P2f) and the Lexical Preference Principle (P2b). The results of the sentence level interpretation task of the *preterite*/imperfect distinction showed that processing instruction group improved 14% between the pre-test and the post-test, and in the delayed post-test, their improvement was sustained but there were no gains. Regarding the negative informal commands, the processing instruction improved (62%) in the post-test and their mean score slightly increased (0.8%) in the delayed post-test.

The relative effects of processing instruction on the Spanish simple past were examined by Cadierno (1995). This target item is affected by the Lexical Preference Principle (P1b). The results from this study showed that the mean score of the processing instruction group increased in the sentence level interpretation (32%) and production (54%) tasks and this improvement was maintained over one week. After one week, the processing instruction group gained in the interpretation task (4%) but their performance dropped 1% in the production task.

The overall findings from the five studies briefly reviewed showed that in the interpretation tasks, groups receiving processing instruction overall maintained their improvement between the post-test and the delayed post-test. However, their performance in the production tasks diminished between the post-test and the delayed post-test administered after one week.

The results of the assessment tasks on the durable effects of processing instruction after two weeks

Farley (2001b and 2004a) conducted a study investigating the effects of processing instruction on the acquisition of the subjunctive of doubt in Spanish. This grammatical feature is affected by the Lexical Preference Principle (P1b) and the Sentence Location Principle (P1f). The results of sentence level interpretation data showed that the processing instruction group improved from the pre-test to the post-test by 37% and their performace additionally increased 3% in the delayed post-test. The sentence level production task showed an improvement of 69% from the pre-test to the post-test but this improvement decreased by 12% after two weeks.

The effectiveness of processing instruction on the acquisition of the subjunctive of doubt in Spanish was measured by Farley (2004b). This target item is affected by the Lexical Preference Principle (P1b) and the Sentence Location Principle (P1f). In the results of the sentence level interpretation task, structured input group's mean score had a 6% gain from the pre-test to the post-test and their performance also increased 7% in the delayed post-test. As for the results of production task, the structured input group improved by 32% from pre- to post-test but again this group performance decreased 2% after two weeks.

The overall outcomes from the two studies reviewed indicated that the effects of processing instruction/structured input practice are maintained from post-tests to delayed post-tests in the case of the interpretation task. In the production task, the performance of these groups decreased over a two weeks period.

The results of the assessment tasks on the durable effects of processing instruction after three weeks

Benati (2001) and Cheng (2002) attempted to investigate the effectiveness of processing instruction on the discourse level production tasks. Benati (2001) measured the effects of processing instruction on the acquisition of Italian future tense verb morphology.

The grammatical feature is affected by the Lexical Preference Principle (P1b). The results of the interpretation task revealed that the processing instruction group made gains of (44%) in the post-test. Although they still improved in the delayed post-test in relation to their scores in the pre-test over three weeks, their actual performance decreased 10% in the delayed post-test. In the sentence level written production task the processing instruction group improved by 49% from pre-test to post-test and this performance slightly diminished (2%) after three weeks. The results of the discourse level oral production task showed that processing instruction group improved 43% in the post-test but their performance decreased by 1% in the delayed post-test. The effects of processing instruction on the acquisition of copular verbs (*ser* and *estar*) in Spanish affected by the Preference for Nonredundancy Principle (P1c) were investigated by Cheng (2002). The results from this study showed that processing instruction group clearly improved the mean score in the interpretation post-test (21%) but their gain decreased by 13% in the interpretation delayed post-test. Regarding the results of the sentence level production task, the processing instruction group improved 29% in the post-test but their scores dropped 4% after three weeks.

The overall findings from the two empirical studies reviewed in this section revealed that learners' scores in the delayed post-test diminished regardless to whether the task was an interpretation or a production task, after three weeks.

<u>The results of the assessment tasks on the durable effects of processing instruction over four weeks</u>

Benati (2004a) demonstrated the effectiveness of structured input activities on the acquisition of future tense Italian affected by the Lexical Preference Principle (P1b). The results of this study showed that the processing instruction group in the interpretation post-test made improvement (56%) from the pre-test to the post-test. However, their improvement decreased 6% after four weeks even though the delayed post-test mean score

was higher than the pre-test mean score. In the production post-test, the processing instruction group improved 51% from the pre-test. Their improvement decreased by 8% after four weeks but was still higher than the pre-test' mean score.

Farley (2001a) investigated the effects of processing instruction on altering the processing strategies: the Lexical Preference Principle (P1b) and the Sentence Location Principle (P1f) utilising the subjunctive of doubt in Spanish. A month after the treatment, a delayed post-test was carried out to measure the durative effects of processing instruction. The findings from this study revealed that the mean score of the processing instruction group gained 36% from the pre-test to the post-test. Their improvement was maintained one month but their actual improvement decreased by 1%. In the results of production task, the processing instruction group increased their performance by 54% between the pre-test and the post-test and this was maintained for one month.

The overall outcomes of these two studies showed that both processing instruction groups in the two studies maintained their improvements of interpreting and producing the target grammatical features over one month.

Summary

In this section, the eleven studies reviewed have measured the durable effects of processing instruction on the acquisition of Spanish, Italian and Japanese addressing different processing strategies (syntactic, perceptual and semantic strategies).

The mean scores obtained by the processing instruction groups and their performance on the pre-tests, post-tests and delayed post-tests in the sentence level interpretation tasks can be seen in Table 3.5. The table clearly shows that the performance of L2 learners receiving the processing instruction treatment increased from the pre-tests to the post-tests in all studies. However, in the majority of these studies, their performance in the delayed post-tests did not increase significantly. The maximum rate of increase was only by 7% between the post-test and the delayed post-test in the study of Farley (2004b).

The mean scores and improvement obtained by the processing instruction groups in the pre-tests, post-tests and delayed post-tests in the sentence and discourse level production tasks are summarised in Table 3.6. This table undoubtedly demonstrates that, from pre-test to post-test, L2 learners receiving processing instruction made important gains. However, none of the delayed post-test' mean scores in all studies significantly increased. The overall findings from the eleven studies revealed that the processing instruction was an effective intervention to increase L2 learners' abilities to interpret and produce a target linguistic item. However, no further improvements were measured in the delayed post-tests.

Study	Mean score Pre-test	Mean Score Post-test	Interval	Mean score Delayed post-test	Improvement from post-test to delayed post-test
VanPatten & Cadierno (1993)	1.7	8.1	1 week	7.2	9% diminished
Cadierno (1995)	4.2	7.4	1 week	7.8	4% Gained
Cheng (2002)	4.6	6.7	3weeks	5.4	13% diminished
Benati (2001)	3.7	8.1	3 weeks	8.0	10% diminished
Farley (2001a)	3.2	6.8	1 month	6.7	1% diminished
Farley (2001b, 2004a)	3.2	6.5	2 weeks	6.8	3% gained
Benati (2004a)	2.7	8.3	4 weeks	7.7	6% diminished
Farley (2004b)	3.9	4.4	2 weeks	5.0	7% Gained
Morgan-Short & Bowden (2006)	7.6	67.38% No mean score in the original paper	1 week	62.2% No mean score in the original paper	5% diminished
Lee, Benati, Sanchez & McNulty (2007)	PID 8.4 NIC 5.6	PID 12.9 NIC 43.8	1 week	PID 15.6 NIC 42.4	PID sustain NIC 0.8% gained
Lee & Benati (2007c)	0.6	5.8	1 week	5.0	8% diminished

Table 3.6 The mean scores of sentence level interpretation tasks. NCI, negative informal command; PID, preterite/imperfect distinction.

Study	Mean score Pre-test	Mean Score Post-test	Interval	Mean score Delayed post-test	Improvement from post-test to delayed post-test
VanPatten & Cadierno (1993)	2.2	8.9	1 week	8.2	7% diminished
Cadierno (1995)	2.4	7.8	1 week	7.7	1% diminished
Cheng (2002)	3.4	6.3	3 weeks	5.9	4% diminished
Benati (2001)	sentence level 2.3 discourse level 2.7	sentence level 7.2 discourse level 7.0	3 weeks	sentence level7.0 discourse level 6.9	sentence level 2% diminished discourse level 1% diminished
Farley (2001a)	0.8	6.2	1 month	6.2	Sustained
Farley (2001b, 2004a)	0.2	4.3	2 weeks	3.6	12% diminished
Benati (2004a)	2.2	7.3	4 weeks	6.5	8% diminished
Farley (2004b)	0.5	2.4	2 weeks	2.3	2% diminished
Morgan-Short and Bowden(2006)	1.96	31% No mean score in the original paper	1 week	26% No mean score in the original paper	5% diminished
Lee & Benati (2007c)	0.3	4.6	1 week	4.1	5% diminished

Table 3.7 The mean scores of sentence level production tasks and discourse level production tasks

3.5 Implications for the present study

The present study built up on the extensive research conducted to investigate the effectiveness of processing instruction as an input-based and psycholinguistics approach to grammar instruction. Research on the effects of processing instruction has addressed specific processing problems to date. We must keep in mind that processing instruction always addresses a processing problem as it is its main goal to help L2 learners to derive richer intake from the input they are exposed to. Structured input activities have the role of pushing learners away from a non-optimal processing strategy/principle and create correct form-meaning bindings.

Research on the effects of processing instruction has been conducted in both syntactic, perceptual and semantic strategies as described Lee (2004) and as described in this chapter. Within this research framework, which intended to measure the effects of processing instruction, we have reviewed many lines of research. In a first line of research (VanPatten and Cadierno, 1993; Cadierno, 1995; Farley, 2001a, 2001b, 2004a; VanPatten and Wong, 2004; Benati, 2005; Morgan-Short and Bowden, 2006; Lee and Benati, 2007f; VanPatten, Inclezan, Salazar and Farly 2009) the relative effects of processing instruction have been compared to other approaches to grammar instruction which emphasized language production. In a second line of research (VanPatten and Oikkenon, 1996; Benati, 2004a, 2004b; Farley, 2004b; Wong, 2004) the internal components of processing instruction have been tested. This line of research has sought to establish the causative factor in the positive effects of these successful instructional treatments. A third line (Lee and Benati, 2007d, 2007e; Lee, Benati, Sánchez and McNulty, 2007) of research has focused on measuring the effects of delivering processing instruction via different modes (e.g. computer vs. pencil and paper). A fourth line (Lee and Benati, 2007a, 2007b, 2007c) of research has attempted to compare processing instruction to other input enhancement techniques. A more recent line of research (Benati and Lee, 2008; Benati, Lee and Houghton, 2008; Benati, Lee and Laval, 2008) has addressed possible secondary effects for processing instruction.

The effectiveness of this approach to grammar instruction has been measured mainly utilising interpretation and production sentence level tasks and only a small percentage of studies conducted within this research framework has adopted discourse level tasks. However, one of the limits of the database is that the discourse level tasks used in these studies (VanPatten and Sanz, 1995; Benati, 2001; Cheng, 2002, 2004; Sanz 2004) were only production tasks. Research on processing instruction has also addressed possible durable effects of processing instruction. Eleven (VanPatten and Cadierno, 1993; Cadierno, 1995; Benati, 2001, 2004a; Farley, 2001a, 2001b, 2004b; Cheng, 2002; Morgan-Short and

Bowden, 2006; Lee, Benati, Sánchez and McNulty, 2007; Lee and Benati, 2007b) of the twenty eight studies reviewed in this chapter measured the possible delayed effects of processing instruction from one week to over one month after the end of the instructional treatment. In the majority of cases, despite the fact that the results of the scores of the processing instruction groups in the delayed post-tests were statistically significant compared to the scores of the pre-tests, participants' performance did not increase significantly in the second post-test.

Despite the positive outcomes of the previous studies investigating the effectiveness of processing instruction at altering inappropriate processing strategies, none of the studies reviewed in this chapter have attempted to measure the effectiveness of processing instruction on discourse level interpretation tasks. None of those studies have attempted to provide learners with a re-exposure treatment between post-tests to measure whether learners' performance would further improve. The present study will attempt to address these questions and shed some light on the possible effects of processing instruction on interpretation discourse level tasks and the possible role of re-exposure.

CHAPTER FOUR: RESEARCH DESIGN AND METHODOLOGY

Introduction

The main aim of this chapter is to describe the two experimental designs used to investigate the possible effects of processing instruction as measured by discourse level interpretation tasks utilising Japanese passive forms. The following items will be described in detail: the motivation of the present study; research questions and hypotheses; description of the target linguistic item chosen for this investigation and the related processing problem; the experimental design (pre-test and post-test design) used including a description of the population; the nature of the teaching materials and the overall procedures used for the present study; the assessment tasks, scoring procedures, data collection and data analysis procedures adopted. The first and second experiments provided data of the effect of processing instruction as measured by discourse level interpretation tasks. The second experiment also provided data of re-exposure to the processing instruction treatment.

4.1. Motivation

Previous studies measuring the effects of processing instruction (see full review of different lines of investigation within the processing instruction framework in Lee and Benati, 2009) have provided clear and unanimous evidence for the effectiveness of this approach to grammar instruction. The research findings (see Chapter Three) have provided support for the view that processing instruction is more effective than other approaches to grammar instruction (e.g. traditional instruction and meaning-based output instruction). Its effectiveness has been found in different languages (e.g. English, French, Japanese, Italian and Spanish) and different linguistics features (e.g. verbal and nominal morphology, syntactic structures), and utilising different types of assessment tasks (interpretation sentence level tasks, production sentence level and discourse level tasks). However, these

experimental studies rely heavily on sentence level interpretation and production assessment tasks. Very little research has been conducted to investigate the effects of processing instruction on discourse level production tasks (VanPatten and Sanz, 1995; Cheng, 2002, 2004; Sanz, 1997, 2004). The overall findings from this line of research revealed that L2 learners significantly improve their performance on oral and written video retelling (VanPatten and Sanz, 1995; Sanz, 1997, 2004), and on guided composition (Cheng, 2002, 2004). Despite the positive outcomes of these studies measuring the effectiveness of processing instruction at production discourse level, none of the previous studies have attempted to measure the effectiveness of processing instruction utilising discourse level interpretation tasks.

As highlighted by Lee (2004: 319) in his review of the research on processing instruction, ‘‘one limit on the database is the absence of discourse level interpretation tasks that might confirm the broader effects of processing instruction on interpretation”. How effective is processing instruction for improving learners’ performance not only on sentence but also on discourse level interpretation tasks? In the attempt to address investigation, the main motivation of this study is to measure the effects of processing instruction using discourse level interpretation tasks.

In addition to that, further data were collected in the present study to support the view that L2 learners can, not only maintain, but also strengthen their ability to interpret the target linguistic item at sentence and discourse level if they are re-exposed to the processing instruction treatment. Previous studies have measured durative effects of processing instruction. (VanPatten and Cadierno, 1993; Cadierno, 1995; Benati, 2001, 2004a; Farley, 2001a, 2001b, 2004b; Cheng, 2002; Morgan-Short and Bowden, 2006; Lee, Benati, Sánchez and McNulty, 2007; Lee and Benati, 2007b). The overall findings showed that processing instruction was an effective intervention to grammar instruction and its effects endured one week, two weeks, three weeks, and one month after immediate post-testing. These findings apply to a wide variety of tests at interpretation and production

sentence level, and production discourse level. Although the overall findings of studies measuring durative effects indicate that processing instruction is an effective approach to grammar instruction and its effects are measured in the shorter- and longer-term, learners' performance did not imrove significantly from the immediate post-test to the delayed post-test. Repeated exposure might be the solution to help learners to maintain or to increase their performance. From a cognitive perspective, repeated or multiple exposures and grammar practice may permit L2 learners to strengthen their cognitive understanding of the grammatical structures (Faerch and Kasper, 1980; Anderson, 1985). Leow (1998) has provided empirical evidence to this view through a classroom experiment. He investigated the positive effects of the multiple exposure on L2 learners' in ability to interpret and produce morphological forms in Spanish. In his experiment, a single exposure group received input enhansment activities (underlining target linguistic feature and crossword puzzle) only prior to the first post-test, while the multiple exposure group received the same treatment again between the first post-test and the second post-test (three weeks after the initial exposure). The second post-test was administered eleven weeks after the second exposure. The findings from this study revealed that learners in the multiple exposure group significantly outperformed learners in the single exposure group. The multiple exposure group maintained their improvement from the first to the second post-test. White, Spada, Lightbown and Ranta (1991) have also provided empirical evidence to the effectiveness of re-exposure treatment. The positive effects of form-focused instruction and corrective feedback on learners' interlanguage systems were investigated. In this study, three experimental classess of beginner level francophone (age 10 to 12years) L2 learners of English were exposed to input enhansment activites: Form-focused instruction on question formation. They received a follow-up treatment (same activities) one week after the first treatment. A delayed post-test was administered five weeks after the follow-up instruction. The overall findings from this study showed that there was no decline in performance on the delayed post-test. These results from two studies provided empirical

evidence of Anderson (1985) and Faerch and Kasper (1980)'s cognitive view and show us a possibility of the positive effects of re-exposure to the processing instruction treatment on learners' performance.

4.2. Research questions and hypotheses

The aim of the present study (two data collection were conducted) was to explore the effects of processing instruction as measured by discourse level interpretation tasks utilising immediate and delayed post-tests. However, sentence level tasks were also used to measure learners' ability to interpret and to produce sentences containing the target feature. This decision was based on the fact that the present research focused on a previously uninvestigated linguistic item of the Japanese language, specifically, passive forms. The possible effects of multiple exposure to the target feature (top-up processing instruction treatment) between the two post-test batteries (immediate and delayed) was additionally measured in the second experiment.

The main contributions of the present research to the ongoing debate on the effectiveness of processing instruction are the following:

1. to provide new evidence of the effectiveness of processing instruction for improving learners' performance on discourse level interpretation tasks;

2. to provide new evidence of the effectiveness of processing instruction on a different linguistic feature of the Japanese grammar system (passive forms);

3. to provide new evidence that L2 learners receiving re-exposure to the processing instruction treatment between post-test and delayed post-tests would make further improvement in their ability to interpret and produce the target feature at sentence level and interpret the target feature at discourse level;

4. to offer further evidence of the effectiveness of processing instruction at altering the 'First Noun Principle' used by learners when processing input;

5. to further demonstrate that the effects of processing instruction on L2 learners' developing system on the acquisition of passive forms in Japanese are measurable in both an interpretation and production sentence level tasks.

Based on these research aims and with the specific intent to measure the effects of processing instruction on the acquisition of a new linguistic feature in Japanese embedded in discourse, four specific questions were formulated:

Q1. Would learners receiving processing instruction improve in their ability to interpret and produce sentences containing Japanese passive forms?

Q2. Would learners receiving processing instruction improve in their ability to interpret Japanese passive forms embedded in discourse (guided recall: dialogue and story versions)?

Q3. Would learners receiving re-exposure to the processing instruction treatment between the immediate and the delayed post-tests further improve in their ability to interpret and produce sentences containing Japanese passive forms?

Q4. Would learners receiving re-exposure to the processing instruction treatment between the immediate and the delayed post-tests further improve in their ability to interpret Japanese passive forms embedded in discourse?

Taking into consideration findings within the processing instruction research framework and based on the questions raised in the present study, the following four hypotheses were formulated:

H1. Learners receiving processing instruction will improve their ability to interpret and produce Japanese passive forms in sentence.

Based on previous research, we can hypothesise that processing instruction can help learners apply appropriate word order processing strategies and this has also effect on their ability to produce sentences containing the target feature.

H2. Learners receiving processing instruction will improve their ability to interpret Japanese passive forms embedded in discourse as measured by a guided recall (dialogue and story versions)

As hypothesised by Lee (2004: 319) PI will yield significant improvement on discourse level interpretation tasks.

H3. Learners receiving re-exposure to the processing instruction treatment between the immediate and the delayed post-tests will further improve in their ability to interpret Japanese passive forms and produce sentences containing Japanese passive forms.

H4. Learners receiving re-exposure to the processing instruction treatment between the immediate and the delayed post-tests will improve in their ability to interpret Japanese passive forms embedded in discourse.

4.3 The target linguistic item

The Japanese passive was selected for the experiment of the present study. The reason for selecting the Japanese passive is threefold. First of all, passive construction has not been investigated in previous processing instruction research. Six previous empirical studies have involved the First Noun Principle (P2) and investigated the effect of processing instruction utilising word order with object pronouns and the causative (see Chapter Three). None of the previous studies, however, used the passive construction. Secondly, this grammatical structure is affected by the First Noun Principle (P2). The third reason for the selection of the Japanese passive is that it is one of more difficult items to acquire for L2 learners of Japanese. The main reason for the difficulty in acquiring the passive is that sentences using the passive are affected by another processing principle: the Sentence Location Principle (P1f). When L2 learners of Japanese parse sentences they need to figure out who did what to whom. Normally L2 learners parse sentences relying on

word order and employ the first noun processing strategy which assigns subject or agent status to the first noun or pronoun encountered in a sentence. The passive sentence here below has the same structure as an English passive construction. *Tom hit Chris* (1) is a different sentence from *Tom was hit by Chris* (2).

(1) **Tom** は　Chris を　たたきました。　　Tom hit Chris.
Tom *wa* Chris o *tatakimashita*

(2) Tom は　**Chris** に　たたかれました。　　Tom was hit by Chris.
Chris *wa* Tom *ni* *tatakaremashita*

Following the First Noun Principle (P2), L2 learners will tend to misinterpret sentences using the passive structure (2) in Japanese by assigning the role of agent to the first noun or noun phrase in the sentence. They will therefore misinterpret the sentence (2) as *Tom hit Chris*. This processing strategy is thought to cause a delay in L2 learners of Japanese acquisition of this structure and word order pattern. Moreover, when a passive sentence is constructed, the verb must be changed to a passive form. The verb "*tata**ki**mashita'* must be changed to the verb '*tata**kare**mashita'* in the passive sentence (2). Either active or passive verbs appear in the final position of the sentence. According to the Sentence Location Principle (P1f), learners tend to process items in the initial position before those in final position and those in medial position. Therefore, L2 learners of Japanese tend to overlook the passive form. When L2 learners of Japanese interpret a passive sentence correctly, they firstly have to pay attention to the verb at the end of the sentence to determine whether the sentence is a passive or an active sentence. They must also decide who did what to whom in the passive sentence. Two processing principles influence processing input and in this case principles together delay acquisition (VanPatten, 2004).

The Japanese passive has two different constructions. One is called the direct passive and the other is called the indirect passive. The direct passive sentence is equivalent to an English passive sentence (an example sentence is above). The indirect passive sentence

expresses the idea that the patient is affected by the agent. It also implies that the patient was annoyed in some way by the agent.

Active sentence　Tom は Chris の　ケーキを　たべました。(Tom ate Chris's cake)
Tom *wa* Chris *no* *keeki o* *tabemashita*
Tom is the agent and Chris is the patient.

Indirect passive sentence
Chris は Tom に ケーキを　たべられました。(Chris's cake was eaten by Tom)
Chris *wa* Tom *ni* *keeki o* *taberaremashita*
Chris is the patient and Tom is the agent.

In the active sentence, "Tom" is the subject as the agent and "Chris no keeki" (Chris's cake) is the object. In the English translation, "Chris's cake" becomes a subject in the passive sentence but in the Japanese indirect passive sentence, only "Chris" (the patient) becomes the subject. "cake" becomes the object and the second noun "Tom" becomes the agent. Moreover, the indirect passive senternce also expresses the idea that Chris is not happy because Tom ate Chris's cake. The active sentence informs the listener of a fact, while the indirect passive describes the patient's affected feelings. The indirect passive sentence does not exisit in English. Therefore, the indirect passive construction is difficult to acquire for L2 learners.

4.4 Method

Procedures

The two main objectives of the present study were:

- to determine whether possible effects of processing instruction on the Japanese passive form could be found and to measure those effects (immediate and delayed) on discourse level interpretation tasks, sentence level interpretation and production tasks;

- to determine possible re-exposure effects of processing instruction on the acquisition of Japanese passive forms.

In order to address the two main objectives of the present study, two data collections were carried out through two classroom experiments. In both experiments, an independent factor was the treatment factor, a processing instruction group compared and contrasted to a control group. Dependent factors were the learners' scores on the four tests developed for this study. The overall procedures followed in both studies are presented graphically in Figure 4.1 and Figure 4.2. The processing instruction group was taught the targeted linguistic feature through full processing instruction, that is, using explicit information and processing information about the target structure followed by practice with the target on structured input activities. The control group did not receive any instruction on the target feature but was exposed to a comparable amount of target language during the treatment phase.

A pre- and post-test procedure was adopted for this classroom experiment. The pre-tests were administered two days prior to the beginning of the instructional treatment period. After the pre-test was administered, the participants were randomly assigned to one of two groups: processing instruction or control group. All participants were asked to take first the sentence level interpretation task followed by the sentence level production task. Participants were then given a very short break lasting only a few moments. The participants then received the two discourse level interpretation tasks. They first heard a dialogue and performed a guided recall. They then listened to a story and performed a guided recall.

1	2 days before treatment 30 minutes	**Pre-test**
2	Treatment day two hours	**Processing instruction Group** •Explicit information •Structured input activities 1 to 8 **Control group** • No instruction on the target item
3	Treatment day 30 minutes	**Immediate post-test** 1. Sentence level interpretation task 2. Sentence level production task 3. Discourse level interpretation task: dialogue version 4. Discourse level interpretation task: story version

Figure 4.1 Overview of the procedure in the first experiment

1	2 days before treatment 30 minutes	**Pre-test**
2	Treatment day two hours	**Processing instruction Group** •Explicit information •Structured input activities 1 to 8 **Control group** • No instruction on the target item
3	Treatment day 30minutes	**Immediate post-test** 1. Sentence level interpretation task 2. Sentence level production task 3. Discourse level interpretation task: dialogue version 4. Discourse level interpretation task: story version
4	1 week after Treatment 1 hour	**Processing instruction Group** •Structured input activities 9 to 12 **Control group** • No instruction on the target item
5	1 week after treatment 30 minutes	**Delayed post-test** 1. Sentence level interpretation task 2. Sentence level production task 3. Discourse level interpretation task: dialogue version 4. Discourse level interpretation task: story version

Figure 4.2 Overview of the procedure in the second experiment

In both experiments, the processing instruction group received two hours of instruction by an instructor who was the researcher and not the subject's regular classroom instructor. The instructor acted as a facilitator for the instructional group as she diligently followed the instructional materials to the next. Materials for the processing instruction group were developed as followed by the guidelines for creating structured input activities (Lee and VanPatten, 1995, 2003; VanPatten and Sanz, 1995). The control group received no instruction on the target but did receive a comparable amount of exposure to the target language. The post-tests were carried out at the end of the one-day instructional treatment. The two hours of class time were spent on explanation and practice of the target and on taking the four post-tests. All the pre- and post-tests were comparable in terms of difficulty and vocabulary.

In the second experiment the same design and procedures used in the first experiment were adopted. The only difference was that one week after the end of the instructional period, the processing instruction group received a re-exposure to instructional treatment. The instruction consisted of one hour of structured input practice (four structured input activities; see Appendix D). The control group continued with normal classroom instruction. A delayed post-tests battery was administered to both groups one week later.

One-way ANOVAs (analysis of variance) were conducted on the raw scores for all pre-tests to assess whether there were any statistical differences among the two groups before the beginning of the experimental period. Repeated measures ANOVAs were used on pre- and post-test scores to assess whether there were any effects for instruction and time.

Participants

Experiments 1

The initial subject pool consisted of thirty-two participants. They were all English native speakers and were learning Japanese as part of their second year undergraduate

degree at Cardiff University, Wales. Participants were all intermediate level learners of Japanese. None were native speakers of Japanese nor bilingual in Japanese. Additionally, none indicated that they had been taught the target form or had been exposed to it previously in or out of the classroom. The final subject pool, however, numbered ten. The initial subject pool was reduced due to several factors. Not all learners agreed to participate in the study so the final data pool consisted of only those who signed the consent form (see Appendix A). All subjects were asked to sign a consent form (see Figure 4.3) in order to be included in the final pool. They were all volunteers and were aware of the comparative nature of the study. Additionally, to be included in the final data pool, the learner had to attend all the different stages of this classroom experiment. Finally, only subjects who scored less than 60% on the four pre-tests (one sentence level and two discourse level interpretation tasks as well as a sentence level production task), were included in the final pool. The participants were randomly assigned to one of two groups. One group, numbering seven, received processing instruction on the target form. The other group, numbering three, served as a control group and did not receive instruction on the target form. They simply took the pre- and post-tests. Overall, the criteria for inclusion in this experiment were as follows:

(1) Score of less than 60% on the pre-tests.

(2) Native speakers of English.

(3) Intermediate level of Japanese.

(4) Never been taught the target form (Japanese passive forms) previously.

Experiment 2

In the second study, which adopted the same design and procedures as in the first experiment, the pre-test were carried out by all participants two days prior to the beginning of the instructional treatment period. This second experiment was carried out at the School of Oriental and African Studies (SOAS) Language Centre in London. The initial subject

pool in the SOAS was twenty two. However, the final data pool was nineteen consisting of eight females and eleven male. Participants were at intermediate level. None of them were native speakers of Japanese or bilingual in Japanese and they were all native speakers of English. They completed a consent form and voluntarily participated in this experiment. Subjects who scored less than 60% of the maximum score on the four pre-tests (sentence level interpretation and production tasks as well as discourse level interpretation tasks) were included in the final data pool. Additionally, only participants who had taken part in the whole experiment (pre-tests, instructional treatment, immediate post-tests, re-exposure and delayed post-tests) were included in the final data collection. After the pre-tests, the participants were randomly divided into two groups: the processing instruction group and the control group. The processing instruction group consisted of thirteen participants: six females and seven males, while the control group was composed of six participants: two females and four males in the second experiment. The criteria for inclusion in this experiment were as follows:

(1) Score of less than 60% on the pre-tests.
(2) Native speakers of English.
(3) Intermediate level of Japanese
(4) Never been taught the target form (Japanese passive forms) previously.

Materials for the treatment

One set of instructional materials for the two experiments was developed. The materials addressed the Japanese passive structure. Processing instruction aimed at helping L2 learners to process Japanese passive forms correctly. The processing instruction materials consisted of explicit information (see Appendix B) about Japanese passive forms and structure, information on the processing strategies which affect the acquisition of Japanese passive forms, and structured input activities. Structured input activities were

developed (see Appendix C and D) based on the guidelines firstly formulated in VanPatten and Sanz (1995). Processing instruction aimed at teaching L2 learners how to interpret and comprehend the targeted structure in the input by making them use that structure to make meaning. In processing instruction research, learners in a processing instruction group never engaged in production practice. The learners do not produce the form other than on the production pre- and post-tests. Our processing instruction materials consisted of explicit information of the grammatical target structure and information on processing strategies. The explicit information component described the use and the characteristics of the passive structure in Japanese and, as importantly, provided information on the processing strategy that affects this structure. A sample of the processing strategy information component is in Figure 4.3.

□ Keep in mind that the first noun is not an agent (the doer) in the following passive sentence.
Chris は　**Tom** に　たたかれました。Chris was hit by Tom.
Tom is an agent (the person who does the action.)
Chris is a patient (the person who is affected.)

Particle に is a little word but に has an important role in the passive sentence. に shows who does the action in the passive sentence.
Please listen or read carefully until the end of the sentence.
The end of the verb form is a key to determine whether the sentence is a passive or an active form.
Please pay attention Who did what to whom!

Figure 4.3 Example of explicit information (full details are attached in Appendix B).

The explicit information was followed by structured input activities. For this research twelve structured input activities were developed; through these activities learners come to interpret the meaning of the grammatical structure in the input. Structured input activities were developed to encourage L2 learners to focus their attention to the Japanese passive

structure during input. Learners were never asked to produce a sentence with a correct Japanese passive structure, but rather, engaged in processing input sentences so that they could parse elements in the sentence correctly and interpret the meaning of the sentence appropriately. The reason is that the target structure in a passive sentence, using a word order based processing strategy, would be inappropriate. Structured input activities aimed at helping L2 learners to make correct interpretation of this structure affected by the First Noun Principle (P2). The structured input activities were of two types: referential and affective. In the referential activities the L2 learners were required to process the input in order to establish an agent who performed the action of the sentence. Doing so correctly was based on the structure in the input they heard or read. Referential activities had a correct answer. Each of our referential activities consisted of ten tokens, i.e., ten sentences. Sample of the referencial activities are in Figures 4.4 and 4.5. In both activities learners listened to sentences or read sentences, and then selected one of two options indicating who performed the action of the verb.

Referential activity

Read each sentence and select a sentence that matches what you read.

1 くまくんは　クリスに 「こんにちは」と　いわれました。
① □ Kuma said “hello” to Chris　　② □ Chris said “hello” to Kuma

2 くまくんは　クリスに　たのみました。
① □ Kuma begged Chris　　② □ Chris begged Kuma

3 クリスは　くまくんに　りんごを　たべられました。
4 □ Kuma ate Chris’s apple　　② □ Chris ate Kuma’s apple.

Figure 4.4 Example of referential activity: written version utilised in the material for the processing instruction treatment (Full details are attached in Appendix C).

Referential activity

Listen to each sentence and select a sentence that matches what you hear.

1 ① □Yoshiko asked Tom. ② □ Tom asked Yoshiko.
2 ① □Yoshiko complimented Tom. ② □ Tom complimented Yoshiko.
3 ① □Yoshiko kissed Tom. ② □ Tom kissed Yoshiko.

Instructor's script

1 よしこちゃんは　トムさんに　きかれました。
Yoshiko chan wa Tom sun ni kikaremashita.
Yoshiko was asked by Tom.
2 よしこちゃんは　トムさんに　ほめられました。
Yoshiko chan wa Tom sun ni homeraremashita.
Yoshiko was complimented by Tom.
3 トムさんは　よしこちゃんに　キスしました。
Tom sun wa Yoshiko chan ni kiss shimashita.
Tom kissed Yoshiko.

Figure 4.5 Example of referential activity: aural version utilised in the material for the processing instruction treatment. (Full details are attached in Appendix C).

Participants received only limited feedback during the referential activities. The end of the activities, they were told only whether their interpretations on the referential activities were correct or not, but were not supplied with any other information. The instructor did not supply more explanation or comment on the structure of the sentences. This decision was based partly on the finding of Sanz (2004) that learners who received explicit feedback while performing structured input activities did not outperform learners who did not. The important aspect of the learning is to perform the structured input activities.

The affective activities required participants to express their opinion or feelings based on the informational content of the input sentences. In these activities there was not a right or a wrong answer. The purpose of affective activities was to direct learner's attention to the Japanese passive forms, while at the same time, they must process each sentence for its meaning in order to complete the tasks of agreeing or disagreeing. An example of an affective activity is provided in Figure 4.6. The items referred to David and Victoria

Beckham known as popular celebrities. They were to indicate if what they hear was likely or unlikely and as such there was no right or wrong answer. What one learner considers likely another might consider unlikely. At the end of the activity the learners were asked to do something with the input by deciding which event is the most likely or unlikely to happen. As in the case of the affective activities, each affective activity contained ten tokens. In addition to the sample activities presented in this section of the chapter, all the activities used for this experiment can be found in the Appendix C and D at the end of this thesis.

2) Each sentence describes an event happening to Victoria Beckham.
Do you think that each statement is likely or unlikely to happen? Read each sentence and tick "likely" or " unlikely"

	Likely	Unlikely
1 David に　キスされました。	□	□
2 David に　おこされました。	□	□
3 David に　そうじを　たのまれました。	□	□
4 David に　おかねを　つかわれました。	□	□
5 David に　メールを　みられました。	□	□

Figure 4.6 Example of affective activity (Full details are attached in Appendix C).

Japanese passive has two different constructions. One is called the direct passive and the other is called the indirect passive. The indirect passive sentence expresses the idea that a patient was affected by an agent. It additionally implies that a patient was annoyed in some way by an agent. However, passive forms do not convey patient feelings. Therefore it is difficult to interpret patient feelings on the sentence from surface structure. As we have characterised previously in this section, affective activities require learners to express their opinion or feelings. Affective activities in structured input activities 3 and 4 (see Appendix C-3 and C-4) focused not only on the connection between grammatical form and its meaning, but also on the connection between sentence structure and its expression of

feelings. The question asked participants whether when encountering the same situations as those described in the sentences, they would be angry or not (activity 4); and whether they would sue the person who annoyed them or not (activity3) so that learners can explore possible feelings of unhappiness and annoyance in context. In the realistic context, learners can analyse which sentence conveys the patient is unhappy feelings.

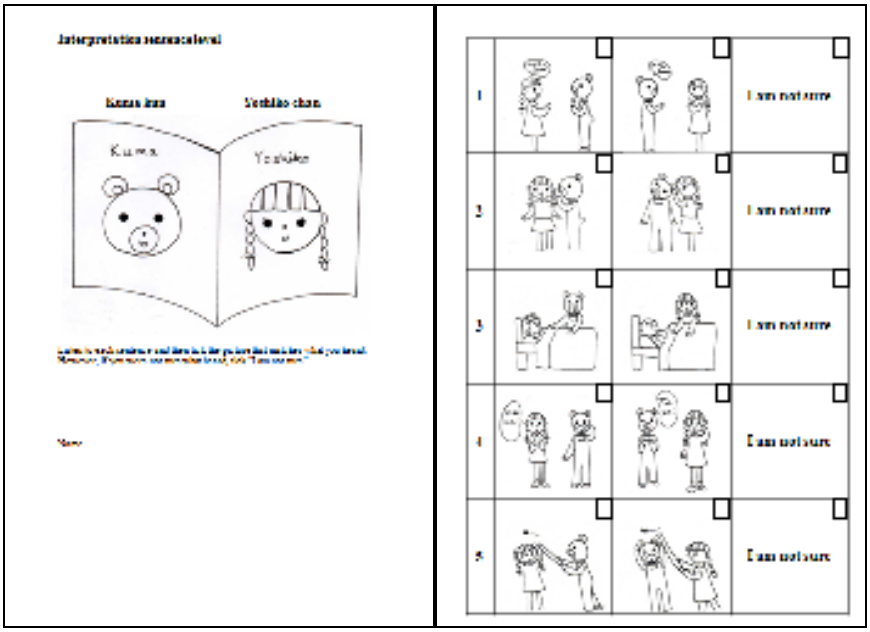
The L2 learners who formed the control group received no instructional treatment on the targeted feature during the course of the experiment. They were provided a comparable amount of nomal Japanesse lesson used a textbook (minna no nihongo) in their classroom for the same amount of time as the instructional treatment took.

Assessment tasks and scoring

In order to evaluate the effectiveness of the processing instruction treatment on the acquisition of Japanese passive structure and to address the four research questions guiding this study, four different tests were developed. Two sentence level assessments, one focused on interpretation and the other production were created. Two discourse level assessments were also produced. Moving from sentence level to discourse level requires learners to make more effort to interpret the forms because discourse is more complex and a level beyond the sentence. The concept of discourse has three main dimensions, i.e. language use, the communication of beliefs, and interaction in social situations (Dijk 1997). Discourse has two different modes: spoken discourse and written discourse. Spoken discourse corresponds to conversation and dialogue, whereas the written discourse is exemplified by newspaper report, articles, novels, and so on. Discourse consists of a sequence of sentences and the forms of the sentences are influenced by surrounding sentences. The difference between spoken and written discourse is that there is a frequency of certain types of ellipsis in spoken discourse (Hughes and McCarthy 1998): namely dropping subjects, pronouns, particles, and so on. Learners need to engage with longer texts in written discourse. In view of the above, two discourse level interpretation tasks

were developed: dialogue version and story version. Two versions of each of the four tasks were created. One version was used as the pre-test and the other as the post-test. Equivalent versions of the assessments were produced with care as the pre- and post-tests had to be equal in terms of length, the use of high-frequency vocabulary, and overall difficulty.

One of the sentence level interpretation tasks is provided in Figure 4.7. It was an aural task which was developed to measure knowledge improved by learners at interpreting passive forms in Japanese. These tasks consisted of twenty audio-taped sentences that were recorded by a native-speaker of Japanese speaking at a normal speed. Of the twenty items, ten were actual targets and the other ten as distracters. The verbs used in these sentences were mostly regular and belonging to two different verb groups (see Appendix E). They were selected from two Japanese textbooks: M*inna no nihongo* (2007) and *Japanese for busy people* (2003). By referencing these textbooks, we were certain that familiar vocabulary was used in constructing the sentences. The participants were required to listen to each sentence and to select one of two pictures that matched with their interpretation. The two pictures differed in terms of who was performing the action. For the assessment task, participants also had the option of indicating that they were not sure who performed the action. In order to measure real-time comprehension, the items were not repeated. Learners had only one opportunity to hear and interpret a sentence. Correct responses were given a score of one and a score of zero for each incorrect response. The maximum score on this test was ten points and the minimum of zero points. Distracters were not scored.



Instructor's script

1.くま君はよしこちゃんに頼みました。
Kuma kun wa Yoshiko chan ni tanomimashita.
Kuma begged Yoshiko.
2. よしこちゃんはくまくんに言われました。
Yoshiko chan wa Kuna kun ni iwaremashita.
Yoshiko was said by Kuma
3. よしこちゃんはくまくんを起こしました。
Yoshiko chan wa Kuna kun ni okosaremashita.
Yoshiko woke Kuma up.
4. くま君はよしこちゃんをほめました。
Kuma kun wa Yoshiko chan ni homeraremashita.
Kuma complemented Yoshiko
5. くま君はよしこちゃんにたたかれました。
Kuma kun wa Yoshiko chan ni tatakaremashita.
Kuma was hit by Yoshiko.

Figure 4.7 Example of the sentence level interpretation task: the cover sheet and page 1 (Full details are attached in Appendix F).

One of the sentence level written production tasks is provided in Figure 4.8. It was developed to measure learner's ability to produce correct Japanese passive verb forms. The production task consisted of twenty incomplete sentences in Japanese. These sentences were given the agent (already marked appropriately in the passives) and object, and participants had to provide the correct verb form. They were instructed to complete the sentences according to the English translation provided. Ten sentences were critical items, i.e., passives, and the other ten were distracters that used the active voice. Measuring

accuracy in producing correct passive forms in Japanese was the main goal of this task and so we scored only ten sentences for which the English translation was a passive construction. Learners were scored one point for each correct sentence produced and zero points for incorrect ones. The maximum possible score was ten points and the minimum zero.

Production pre-test
Complete each sentence according the English translation version.

1 Yoshiko was hit by Kuma
よしこちゃんは　くまくんに_____。

2 Kuma drank Yoshiko's juice
くまくんは　よしこちゃんの　ジュースを_____。

3 Kuma said toYoshiko
くまくんは　よしこちゃんに_____。

4 Yoshiko's biscuit was eaten by Kuma
よしこちゃんは　くまくんに　ビスケットを_____。

5 Kuma scolded Yoshiko
くまくんは　よしこちゃんを_____。

Figure 4.8 Example of the sentence level production task (Full details are attached in Appendix F).

What makes this study unique among investigations of processing instruction was that discourse level interpretation tasks were developed. The tasks were developed and used to measure the ability for learners to interpret correct Japanese passive forms when these forms were embedded in discourse. Both tasks could be described as guided or prompted recalls. The first discourse level interpretation task was presented to the participants as a dialogue. In this task, two people were talking about two characters in a book: *Yoshiko chan* and *Kuma kun. Yoshiko chan* is a girl and *Kuma kun* is a bear and both are the main characters in a famous picture book (Hikima, 2006). One version of the dialogue-based interpretation task is provided in Figure 4.9. The verbs used in this task were selected from

the verbs that had been used in the sentence level interpretation task. Included in the dialogue were five passive sentences serving as critical items and five active sentences serving as distracters. The dialogue was composed of these sentences in different contexts to make a natural sounding conversation. High-frequency lexical items and familiar vocabulary were used. To make the participants' task easier, the dialogue was divided into four segments, each of which included passive and active sentences. The targets embedded in discourse were needed but the targets buried in lengthy discourse were not needed. Two native speakers of Japanese recorded the dialogue using a normal rate of speech. The assessment instructions oriented the participants to listen for who did what. Each dialogue segment was played once; no repetition was provided so that it was possible to measure real time comprehension. After participants heard the dialogue, they opened the task booklet to an appropriate answer sheet. That is, they did not see the pictures while they heard the relevant dialogue segment. A different answer sheet was provided for each dialogue segment and it formed its own page in the task booklet. Once the participants turned to the answer sheet, they had to select one answer between two pictures representing different actions in the dialogue. The only difference between the two pictures in each item was who was the agent and who was the object of the action. However, if participants were not sure of the correct answer, they could tick the "I am not sure" option. They had fifteen seconds to make their selections. Three of the segments contained two items (a target and a distracter) and one contained either two or three items. Five passive forms served as target items for this test, and other five were distracters that were not scored. The maximum possible score was five points and the minimum zero.

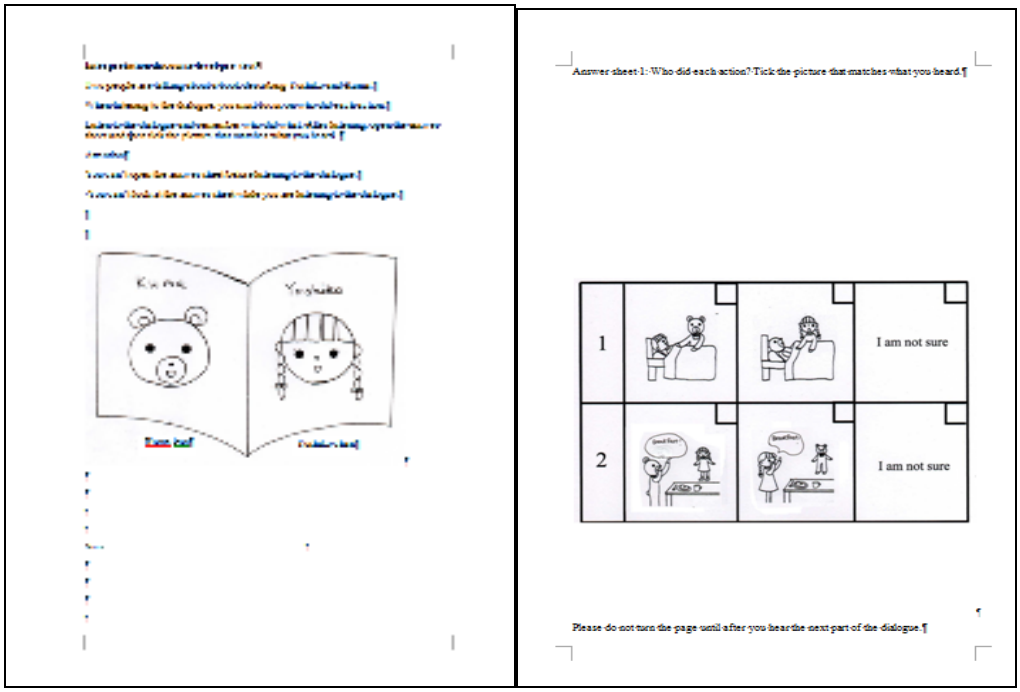


Figure 4.9 Example of the discourse level interpretation task dialogue version: the cover sheet and page 1 (Full details are attached in Appendix F).

The other discourse level interpretation task was also a guided or prompted recall task but this time the participants listened to a story. One version of the part of the task is provided in Figure 4.10. On the cover sheet of the task, they were oriented to their task of listening for who did what. They also saw a picture of the story-teller and the two characters about whom she was going to talk. They were the same characters, *Yoshiko chan* and *Kuma kun*, who were used in the dialogue in the previous assessment task. The test procedures and materials were the same as in the dialogue version. However, in this case, ten passive sentences were included in the story. Five active senternces were also used as distracters. The story was presented in five segments. Each segment contained two passive sentences and one active sentence. Ten passive constructions were the targets that we scored. The five active sentences were distracters and were not scored. The task booklet was constructed just as the one used in the previous assessment. The booklet contained five answer sheets consisting of five separate pages with a sixth cover page explaining the task procedures. The procedures used for this task were the same as those used for the dialogue-based assessment. Participants heard the story segment only once, then turned to the

appropriate answer sheet and selected the pictures that matched with what they heard. They again had the option of indicating that they were not sure of an answer. One point was scored for each correct picture selected and zero points were given to incorrect selections. The maximum possible score was ten points and the minimum zero.

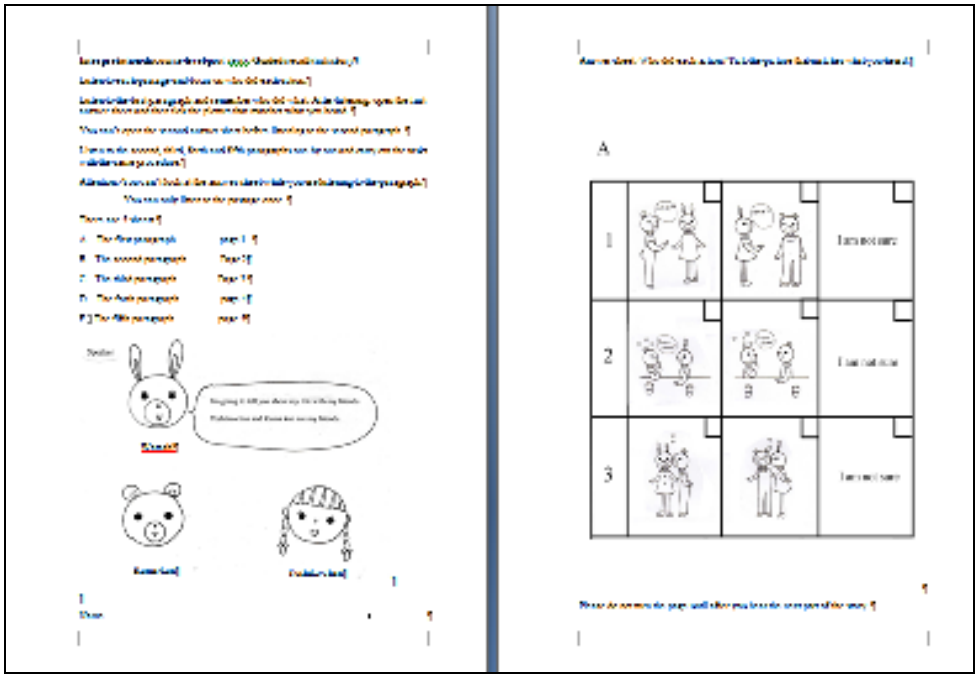


Figure 4.10 Example of the discourse level interpretation task story version: the cover sheet and page 1 (Full details are attached in Appendix F).

Statistical analysis

A one-way ANOVA (analysis of variance) was conducted on the raw scores for the interpretation and production sentence level tasks and on the interpretation discourse level tasks to assess whether there were any statistically significant differences among the class means of any of the pre-tests measures. This was in order to establish that the two groups were considered as part of the 'same population' before the beginning of the instructional treatment period.

A two-way repeated measures ANOVA with one between subject factor (treatment) and one within subject (time) repeated measures factorial design (pre-test vs. post-test) was carried out on the raw scores of each assessment tasks (interpretation sentence and

discourse level and production sentence level). The raw scores were used as dependent variables (two groups in the first experiment and three groups in the second experiment) and instruction (one treatment and the control group) as the labels for the independent variable.

The results of the statistical analysis carried out in this study will be presented and analysed in the next chapter.

CHAPTER FIVE: RESULTS

Introduction

In this chapter the results of this study conducted to investigate the effects of processing instruction on the acquisition of Japanese passive forms will be presented. The results are shown in two sections: the first section reports on the results of the statistical analysis adopted for the first experiment/data collection; in the second section the results of the second experiment/data collection will be presented. In both experiments, one-way ANOVAs were conducted on the raw scores for the interpretation and the production tasks to assess whether they were statistically different among the class means of any of the pre-tests. In order to assess whether processing instruction had an impact on the acquisition of Japanese passive forms, the raw scores of sentence level (interpretation and production) and discourse level tasks (interpretation) were analysed by two-way repeated mesure ANOVA. A summary of the results will be presented at the end of this chapter.

5.1 Results Experiment 1

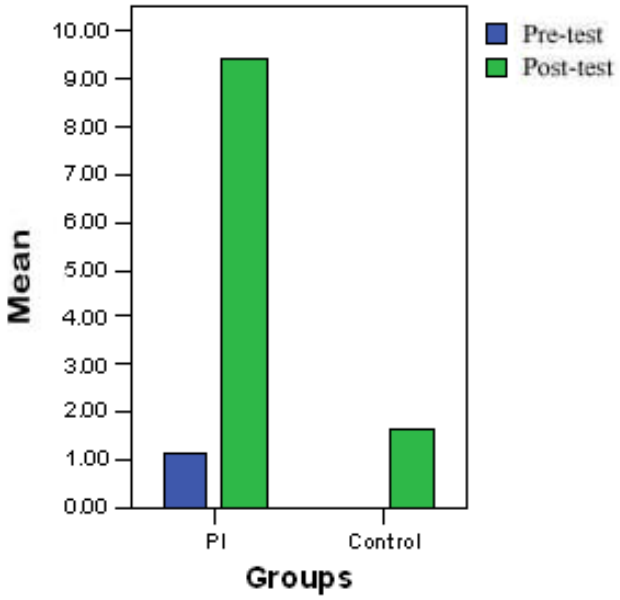
Sentence level interpretation data

Data were collected through a sentence level interpretation task. The descriptive statistics for participants' performance on the sentence level interpretation task, both pre- and post-tests, are provided in Table 5.1. Graph 5.1 also displays the results graphically.

The raw scores for learners' performance on the sentence level interpretation task at pre-test level were submitted to a one-way ANOVA. The results of this analysis showed no significant difference between the two groups before instruction ($F(1,9) = 1.052$, $p = .335$). Therefore, any subsequent difference in post-tests scores will be attributed to the effects of the instructional treatment (processing instruction).

		Pre-test		Post-test	
Variable	n	Mean	SD	Mean	SD
PI	7	1.14	1.86	9.42	.534
C	3	.000	.000	1.66	1.52

Table 5.1 Means and standard deviations for the sentence level interpretation task: pre-test and post-test.



Graph 5.1 Sentence level interpretation task

The large gains made by the processing instruction group on the sentence level interpretation task are represented in the above graph. Ten was the maximum score and this group's post-test mean score was 9.42. The processing instruction group improved over 80% from pre-test to post-test scores. The graph also shows the extremely small difference between the control group's pre-test and post-test scores.

To address the first question formulated in the present study to measure possible sentence level effects of processing instruction in the interpretation task, the raw score of both pre- and post-tests of the sentence level task were submitted to a two-way ANOVA with repeated measures. Treatment (processing instruction vs. control) was the between-

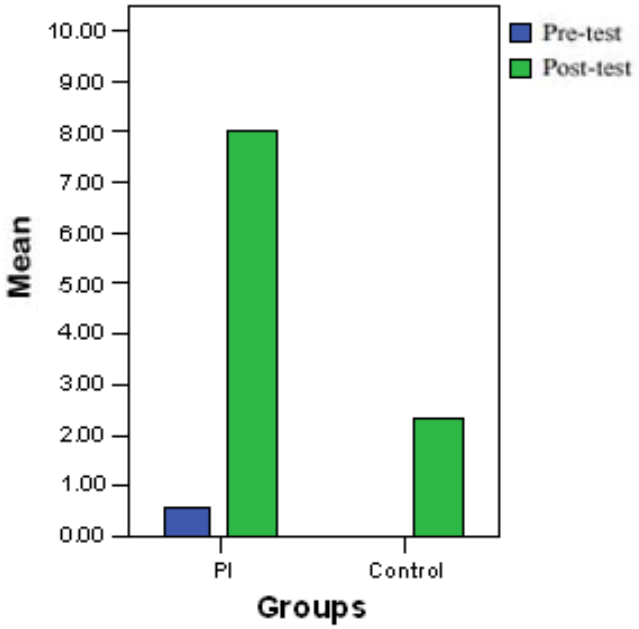
subjects variable, whereas Time (pre-test vs. post-test) was the within- subjects, repeated measures variable. The two-way ANOVA showed a significant main effect for Time ($F(1,9) = 59.228$, $p = .000$); a significant main effect for Treatment ($F(1,9) = 26.198$, $p = .001$); and significant interaction between Treatment and Time ($F(1,9) = 50.497$, $p = .000$). These results demonstrated that only the processing instruction group improved in their ability to interpret Japanese passive constructions presented at the sentence level. The control group made no gains. The processing instruction group was clearly superior to the control group as the instructional treatment had a large impact on helping students process and parse Japanese passive forms correctly.

Sentence level production data

The sentence level production data were collected through a written completion task. Means and standard deviations are displayed in Table 5.2 and in Graph 5.2. The pre-test raw scores of learners' performance on the sentence level written production task were submitted to a one-way ANOVA. The results of this analysis showed no significant difference among the two class means before instruction ($F(1,9) = .400$, $p = .545$). The results of the pre-test on the written production task indicate that any comparative effects are not attributed to prior knowledge of any of the groups. As in the case of the interpretation task, any subsequent difference in post-tests scores will be attributed to the effects of the instructional treatment (processing instruction).

		Pre-test		Post-test	
Variable	n	Mean	SD	Mean	SD
PI	7	.571	1.51	8.00	2.44
C	3	.000	.000	2.33	2.51

Table 5.2 Means and standard deviations for the production task: pre-test and post-test.



Graph 5.2 Sentence level production task

The graph presented above illustrates a visual representation of the large gains made by the processing instruction group on the sentence level written production task. Ten was the maximum score and this group's post-test mean score was 8.00. The processing instruction group improved over 70% from pre-test to post-test scores. The graph also shows the extremely small difference between the control group's pre-test and post-test scores.

To address the first question formulated in the present study to measure possible sentence level effects of processing instruction in production, the raw score of both pre- and post-tests of the sentence level task were submitted to a two-way analysis of variance (ANOVA) with repeated measures. Treatment (processing instruction vs. control) was the between-subjects variables, whereas Time (pre-test vs. post-test) was the within-subjects, repeated measures, variable. The results of the two-way ANOVA revealed a significant main effect for Time ($F(1,9)= 34.517$, $P=.00$); a significant main effect for Treatment ($F(1,9) = 9.404$, $P=.005$); and significant interaction between Treatment and Time ($F(1,9)= 25.488$, $P=.001$). These results demonstrated that only the processing instruction group improved in their ability to interpret Japanese passive constructions presented at the

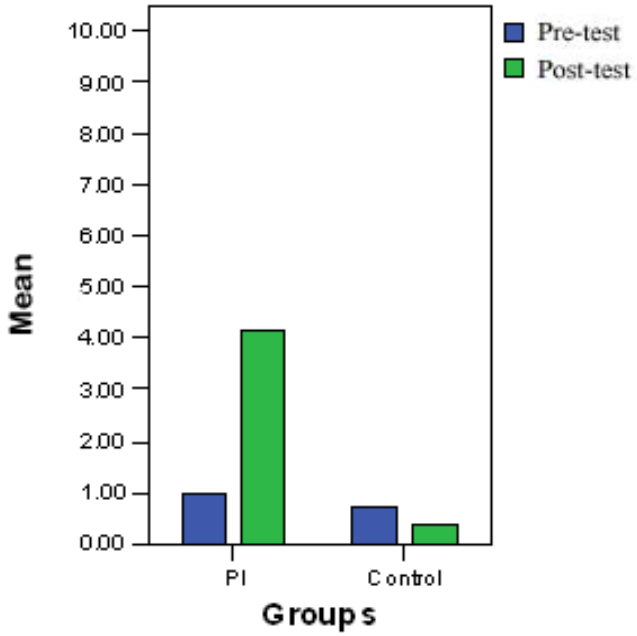
sentence level. The control group made no gains. The processing instruction group was clearly superior to the control group as the instructional treatment had a large impact on helping students process and parse Japanese passive forms correctly.

Discourse level interpretation: dialogue version

Interpretation discourse level effects were collected through two types of tasks: dialogue and story. The descriptive statistics for participants' performance on the discourse level interpretation task: dialogue version, both pre- and post-tests, are provided in Table 5.3 and in Graph 5.3. The raw scores for learners' performance on the discourse level interpretation task (dialogue version) at pre-test level were submitted to a one-way ANOVA. The results of this analysis revealed no significant difference between the two groups before instruction ($F(1,9) = .175$, $p = .687$).

		Pre-test		Post-test	
Variable	n	Mean	SD	Mean	SD
PI	7	1.00	1.15	4.14	1.46
C	3	0.66	1.13	.333	.557

Table 5.3 Means and standard deviations for the discourse level interpretation task dialogue version: pre-test and post-test.



Graph 5.3 Discourse level interpretation task dialogue version

Displayed in the above graph are the substaintial gains made by the processing instruction group on the discourse level interpretation task (dialogue version). Five was the maximum score and this group's post-test mean score was 4.13. The processing instruction group improved over 60% from pre-test to post-test scores. The graph also shows that the scores between the pre-test and the post-test in the control group.

To address the second question formulated in the present study to measure possible discourse level effects of processing instruction, the raw score of both pre- and post-tests of the discourse level task were submitted to a two-way ANOVA with repeated measures. Treatment (processing instruction vs. control) was the between-subjects variable, whereas Time (pre-test vs. post-test) was the within-subjects, repeated measures, variable. The two-way ANOVA showed a significant main effect for Time ($F(1,9)= 7.567$, $P= .009$); a significant main effect for Treatment ($F(1,9) = 11.585$, $P= .002$); and significant interaction between Treatment and Time ($F(1,9) = 20.544$, $P= .002$). These results showed that only the processing instruction group improved in their ability to interpret Japanese passive constructions presented at the discourse level (dialogue version). The control group made no gains. The processing instruction group was clearly superior to the control group

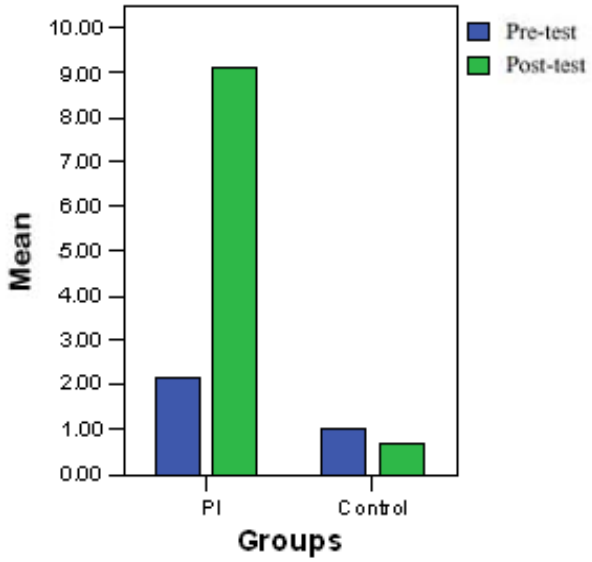
as the instructional treatment had a large impact on helping learners process and parse Japanese passive forms correctly.

Discourse level interpretation: story version

The means and standard deviations for participants' performance on the discourse level interpretation task: story version, both pre- and post-tests, are provided in Table 5.4 and in Graph 5.4. A preliminary one-way ANOVA conducted on the pre-test revealed no significant difference among the two groups before instruction ($F(1,9) = .711$, $p = .424$). The results of the pre-test on the discourse level interpretation task (story version) indicate that any comparative effects are not attributed to previous knowledge of any of the groups.

		Pre-test		Post-test	
Variable	n	Mean	SD	Mean	SD
PI	7	2.14	2.19	9.14	1.06
C	3	1.00	1.10	.666	1.15

Table 5.4 Means and standard deviations for the discourse level interpretation task story version: pre-test and post-test.



Graph 5.4 Discourse level interpretation task story version

The graph shown above reveals the large improvement made by the processing instruction group on the discourse level interpretation task (story version). Ten was the maximum score and this group's post-test mean score was 9.14. The processing instruction group improved over 70% from pre-test to post-test scores. The control group did not gain between the pre-test and the post-test.

To address the second question formulated in the present study to measure possible discourse level effects of processing instruction in the story version, the raw scores of both pre- and post-tests of the discourse level task were submitted to a two-way ANOVA with repeated measures. Treatment (processing instruction vs. control) was the between-subjects variable, whereas Time (pre-test vs. post-test) was the within-subjects, repeated measures, variable. The two-way ANOVA showed a significant main effect for (Time $F(1,9) = 30.270$, $P = .001$); a significant main effect for Treatment ($F(1,9) = 36.627$, $P = .000$); and significant interaction between Treatment and Time ($F(1,9) = 50.244$, $P = .000$). These results demonstrated that only the processing instruction group improved in their ability to interpret Japanese passive constructions presented at the discourse level (story version). The control group showed no difference between the pre- and post-tests. The processing instruction group was clearly superior to the control group as the instructional treatment had a large impact on helping students process and parse Japanese passive forms correctly.

5.2 Results Experiment 2

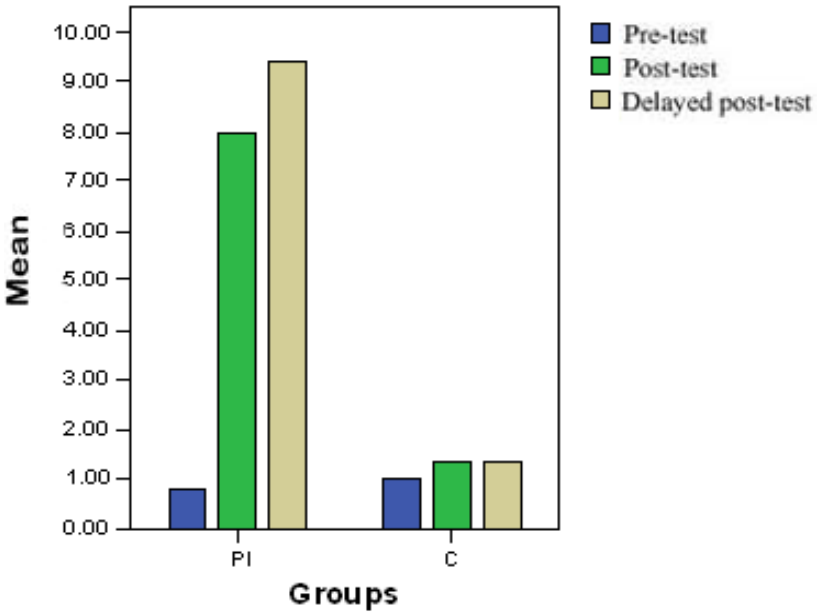
Sentence level interpretation data

In the second experiment, the interpretation sentence level task was administered to the two groups to address the first and third questions of the present study. Mean scores in pre-tests, immediate post-tests and delayed post-tests were calculated separately in each treatment group. As in the case of the previous statistical analyses, the raw scores for learners' performance on the sentence level interpretation task at pre-test level were submitted to a one-way ANOVA. The results of this analysis showed no significant

difference between the two groups before instruction ($F(1,18) = .018$, $p = .896$). The means and standard deviations of the two groups for the sentence level interpretation task are presented in Table 5.5. Graph 5.5 also displays the results graphically.

		Pre-test		Immediate post-test		Delayed post-test	
Variable	n	Mean	SD	Mean	SD	Mean	SD
PI	13	.769	1.42	8.00	2.12	9.38	.767
C	6	1.00	2.00	1.33	1.75	1.33	2.16

Table 5.5 Means and standard deviations for the sentence level interpretation task: pre-test, immediate post-test, and delayed post-test



Graph 5.5 Sentence level interpretation task

The graph clearly shows that processing instruction group made gain on the post-test. Re-exposure to the processing instruction treatments also seemed to have a very positive effect on the processing instruction group as this resulted in further improvement of the processing instruction group as the results from the delayed post-test revealed. The processing instruction group improved over 70% from pre-test to post-test scores, and also

made further improvement (an extra 10%) between post-test and delayed post-test scores. The control group made no improvement.

A two-way ANOVA with repeated measures was used in the raw scores of the sentence level interpretation task. The results from the statistical analysis revealed a significant main effect for Time ($F(1,18) = 153.493$, $p = .001$); a significant main effect for Treatment ($F(1,18) = 115.771$, $p = .000$); and significant interaction between Treatment and Time ($F(1,18) = 131.475$, $p = .003$). These results demonstrated that only the processing instruction group improved in their ability to interpret Japanese passive constructions presented at the sentence level. The control group made no gains. The processing instruction group was clearly superior to the control group as the instructional treatment had a large impact in helping students process and parse Japanese passive forms correctly.

To address the third question formulated in the present study to measure possible re-exposure effects of processing instruction, a second ANOVA was conducted on the two interpretation post-tests. The results showed a significant main effect for Time ($F(1,18) = 153.493$, $p = .000$); a significant main effect for Treatment ($F(1,18) = 170.665$, $p = .000$); and significant interaction between Treatment and Time ($F(1,18) = 11.716$, $p = .003$). The results revealed that the re-exposure to the processing instruction treatment conveyed a positive effect on the processing instruction group as learners from this group clearly improved more in their ability to process and parse Japanese passive forms at interpretation sentence level between the post-test and the delayed post-test.

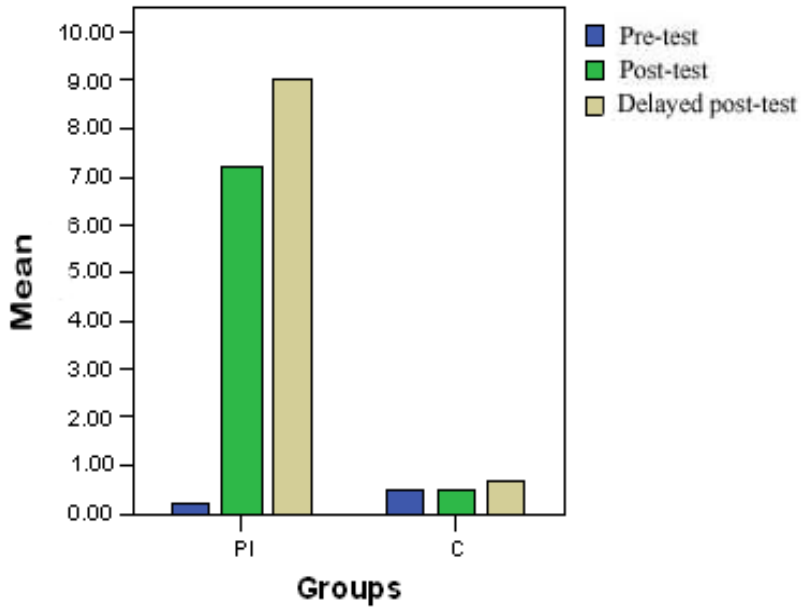
Sentence level production data

The sentence level production data were collected through a written completion task in the same way as the first study. Mean scores in pre-tests, immediate post-tests and delayed post-tests were calculated separately in each treatment group. The raw scores for learners' performance on the sentence level written production task at pre-test level were

submitted to a one-way ANOVA. The results of this analysis showed that there was no significant difference between the two groups before instruction ($F(1,18) = 2.800$, $p = .133$). This indicates that any possible gains in the post-tests are due to the instructional treatment and not to any previous knowledge of the groups.

		Pre-test		immediate post-test		Delayed post-test	
Variable	n	Mean	SD	Mean	SD	Mean	SD
PI	13	.230	.832	7.23	1.92	9.00	1.35
C	6	.500	.836	.500	.836	.666	.816

Table 5.6 Means and standard deviations for the sentence level production task: pre-test, immediate post-test, and delayed post-test



Graph 5.6 Sentence level production task

Means and standard deviations are displayed in Table 5.6 and in Graph 5.6.

The graph presents a visual representation of the gains made by the processing instruction group on the sentence level written production post-tests after receiving the instructional treatment and subsequently re-exposure to processing instruction. The

additional instructional training received by the processing instruction group resulted in further improvement in the delayed post-test. The processing instruction group improved over 70% from the pre-test to the post-test. Moreover, this group improved a further 17% from the post-test and the delayed post-test after re-exposure. The descriptive statistics also showed that the control group made no significant improvement.

The raw scores from the pre-test and the post-test in the production task were submitted to a two-way ANOVA with repeated measures in order to address the first question formulated in the present study to measure possible sentence level effects of processing instruction. Treatment (processing instruction vs. control) was the between-subjects variable, whereas Time (pre-test vs. post-test) was the within-subjects, repeated measures, variable. The two-way ANOVA showed a significant main effect for Time ($F(1,18) = 221.658$, $p = .003$); a significant main effect for Treatment ($F(1,18) = 160.875$, $p = .000$); and significant interaction between Treatment and Time ($F(1,18) = 13.632$, $p = .002$). These results showed that only the processing instruction group improved in their ability to produce Japanese passive forms.

The data was further submitted to a second ANOVA to address the third question formulated in the present study. The results revealed a significant main effect for Time ($F(1,18) = 221.658$, $p = .000$); a significant main effect for Treatment ($F(1,18) = 197.154$, $p = .000$); and significant interaction between Treatment and Time ($F(1,18) = 13.632$, $p = .002$). These findings demonstrated that the re-exposure to the processing instruction treatment resulted in a further improvement of learner's performance. In particular it seemed to improve their ability to produce the accurate use of the targeted forms.

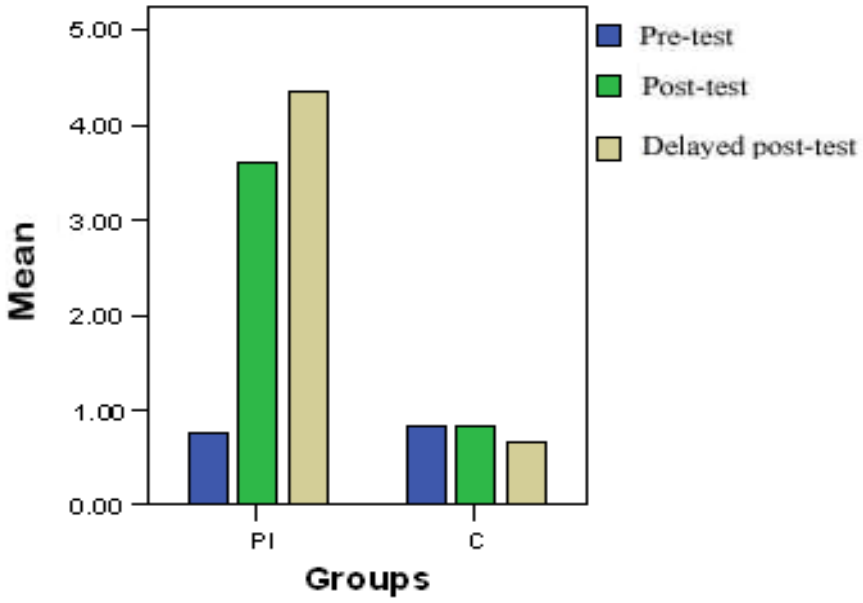
Discourse level interpretation: dialogue version

Means and standard deviations of both groups are provided in Table 5.7 and are displayed in Graph 5.7. Mean scores in pre-tests, immediate post-tests and delayed post-tests were calculated separately in each treatment group. A one-way ANOVA conducted

on the discourse level interpretation task (dialogue version) pre-test revealed no significant difference between two groups before instruction ($F(1,18) = .149$, $p = .709$).

		Pre-test		Immediate post-test		Delayed post-test	
Variable	n	Mean	SD	Mean	SD	Mean	SD
PI	13	.769	.926	3.61	1.04	4.38	.960
C	6	.833	.983	.833	.752	.667	.816

Table 5.7 Means and standard deviations for the discourse level interpretation task dialogue version: pre-test, immediate post-test, and delayed post-test



Graph 5.7 Discourse level interpretation task dialogue version

The graph shown above illustrated significant progress made by the processing instruction group on the discourse level interpretation post-test (dialogue version) and a further improvement of this group in the delayed pos-test. The processing instruction group improved over 56% from pre-test to post-test scores and also made a 15% further improvement from post-test to delayed post-test scores. The control group made no significant improvement.

To address the second question formulated in the present study to measure possible discourse level effects of processing instruction, the raw scores of both pre-test, and the two post-tests of the discourse level task were submitted to a two-way ANOVA with repeated measures. Treatment (processing instruction vs. control) was the between-subjects variable, whereas Time (pre-test vs. post-test) was the within-subjects, repeated measures, variable. The two-way ANOVA showed a significant main effect for Time ($F(1,18) = 46.345$, $p = .001$); a significant main effect for Treatment ($F(1,18) = 29.606$, $p = .000$); and significant interaction between Treatment and Time ($F(1,18) = 10.720$, $p = .004$). These results showed that only the processing instruction group improved in their ability to interpret discourse containing Japanese passive forms, while the control group made no gains.

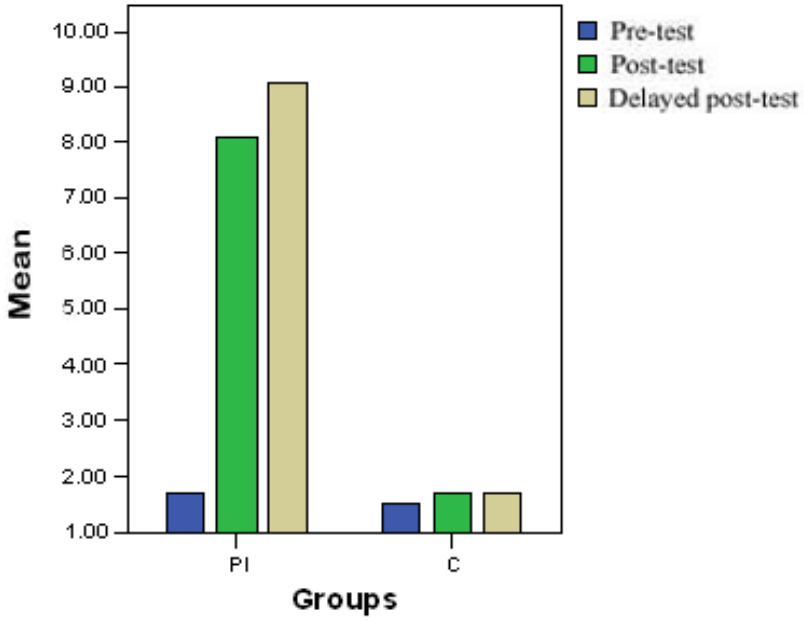
To investigate the question of re-exposure and delayed effects, a second ANOVA was administered on the raw scores of the two discourse level interpretation taskts. The results revealed a significant main effect for Time ($F(1,18) = 46.345$, $p = .000$); a significant main effect for Treatment ($F(1,18) = 113.486$, $p = .000$); and significant interaction between Treatment and Time ($F(1,18) = 10.720$, $p = .004$). The processing instruction group made further improvement in their ability to process and parse Japanese passive forms at interpretation discourse level (dialogue version) after re-exposure.

Discourse level interpretation: story version

The descriptive statistics for participants' performance on the discourse level interpretation task (pre-test and post-test) is provided in Table 5.8 and in Graph 5.8. Mean scores in pre-tests, immediate post-tests and delayed post-tests were calculated separately in each treatment group. The ANOVA conducted on the discourse level interpretation pre-test (story version) revealed no significant difference between the two groups before instruction ($F(1,18) = .018$, $p = .896$).

Variable	n	Pre-test Mean	Pre-test SD	Immediate post-test Mean	Immediate post-test SD	Delayed post-test Mean	Delayed post-test SD
PI	13	1.69	1.88	8.07	1.18	9.07	.862
C	6	1.50	1.76	1.66	1.36	1.66	1.50

Table 5.8 Means and standard deviations for the discourse level interpretation task story version: pre-test, immediate post-test, and delayed post-test



Graph 5.8 Discourse level interpretation task story version

The processing instruction group made significant gains on the discourse level interpretation post-test (story version). Re-exposure to the processing instruction had also very positive effects on the processing instruction group. The processing instruction group improved over 60% from pre-test to the first post-test. Moreover, this group made a further improvement of 10% between the post-test and the delayed post-test. The control group made no significant improvement.

A repeated-measures ANOVA was conducted on the scores of the discourse level pre-test and post-test. Treatment (processing instruction vs. control) was the between-subjects variable, whereas Time (pre-test vs. post-test) was the within-subjects, repeated measures, variable. The analysis showed a significant main effect for Time ($F(1,18)$

=104.972, p = .000); a significant main effect for Treatment (F(1,18) =64.481, p = .000); and significant interaction between Treatment and Time (F(1,18) =112.933, p = .000). These results demonstrated that only the processing instruction group improved in their ability to interpret Japanese passive constructions presented at the discourse level (story version). The control group made no gains.

Another ANOVA was used to investigate the question of re-exposure and delayed effects. The results showed a significant main effect for Time (F(1,18) = 104.972, p = .000); a significant main effect for Treatment (F(1,18) =3.486, p = .000); and significant interaction between Treatment and Time (F(1,18) =21.134, p =.000). The findings indicated that re-exposure impacted positively on the processing instruction group as they clearly made further improvement in their ability to process and parse Japanese passive forms at interpretation discourse level (story version) between the two post- tests.

5.3 Summary of the Results

The two main objectives of the present study were:

(1) to determine whether possible effects of processing instruction on the Japanese passive forms could be found and to measure those effects (immediate and delayed) on discourse level interpretation tasks and sentence level interpretation and production tasks;

(2) to determine possible re-exposure effects of processing instruction.

Based on these two objectives, a set of four specific questions were formulated (see Chapter Four). The results of the two classroom experimental studies presented in this chapter support the four questions and confirm all four hypotheses.

1) Research Question one (supported):

The first question formulated in the present study was "would learners receiving processing instruction improve in their ability to interpret and produce sentences containing Japanese passive forms?" Based on previous research within the processing instruction research framework it was hypothesised that learners receiving processing instruction would improve their ability to interpret and produce sentences containing Japanese passive forms.

Two sets of data were collected through the sentence level interpretation tasks in the two separate experiments (see Table 5.1 and Table 5.5). In both experiments, the statistical analysis clearly showed that the processing instruction group performed better than the control group. Learners in this group improved in their ability to interpret Japanese passive forms at sentence level.

Two sets of data were also collected through the sentence level production tasks (see Table 5.2 and Table 5.6). The results of the two sentence level production data were equally significant. Again, the statistical analysis indicated that the processing instruction group performed better than the control group. Learners in this group improved in their ability to produce Japanese passive forms at sentence level.

The first hypothesis of this study is supported as processing instruction seems to have an effect in the way learners interpret and produce sentences containing the target feature at sentence level. Processing instruction has positive effects on the developing system of L2 learners.

2) Research Question two (supported):

The second question formulated in this study was: would learners receiving processing instruction improve in their ability to interpret Japanese passive forms embedded in discourse (guided recall: dialogue and story version)?

This question was framed on Lee's hypothesis (2004: 319) that processing instruction will yield significant improvement on discourse level interpretation tasks. In the present study, it was hypothesised that learners receiving processing instruction would improve their ability to interpret discourse as measured by a guided recall (dialogue and story versions) containing Japanese passive forms. Two separate sets of data were collected through the discourse level interpretation tasks: dialogue and story versions.

The statistical analysis (see Table 5.3, 5.4 and Table 5.7, 5.8) showed that the processing instruction group improved in their ability to interpret Japanese passive constructions presented at discourse level (dialogue and story), while the control group made no gains. The results showed that both processing instruction groups improved in their ability to interpret Japanese passive constructions presented at the discourse level, whereas both control groups made no gains. Overall, the main findings confirm the second hypothesis and provide new information to the processing instruction research data base.

3) Research Question three (supported):

The third question of the present study was: would learners receiving re-exposure to the processing instruction treatment between the immediate and the delayed post-test further improve in their ability to interpret and produce sentences containing Japanese passive forms? The hypothesis formulated in this context was that learners receiving re-exposure to the processing instruction treatment between the immediate and the delayed post-test might further improve in their ability to interpret and produce sentences containing Japanese passive forms. In order to address this question, a delayed post-test was used to collect data after re-exposure to the instructional treatment between the two post-tests in only the second experiment. Data were collected through sentence level interpretation and production tasks. The processing instruction group received a re-exposure to the processing instruction treatment one week after the first instructional treatment and a second pos-test was administered. The statistical analysis revealed that the

re-exposure treatment has a positive effect on the processing instruction group. This group improved in the way they were able to interpret and produces sentences containing Japanese passive forms (see Table 5.5 and Table 5.6). Overall, the main findings confirm the third hypothesis and provide new information to the processing instruction research data base.

4) Research Question four (supported):

The final question of the present study was: "would learners receiving re-exposure to the processing instruction treatment between the immediate and the delayed post-test further improve in their ability to interpret Japanese passive forms embedded in discourse?" It was hypothesised that learners receiving re-exposure to the processing instruction treatment between the immediate and the delayed post-test would improve in their ability to interpret discourse containing Japanese passive forms. A re-exposure training was provided to the processing instruction group between the two post-tests in the second experiment. The analysis of the data collected through two discourse level interpretation tasks (dialogue and story versions) revealed that the processing instruction group statistically further improved in their ability to process and parse Japanese discourse sentences containing Japanese passive forms (see Table 5.7 and Table 5.8). Overall, the main findings confirm the four hypotheses and provide new information to the processing instruction research data base.

CHAPTER SIX: DISCUSSION AND CONCLUSION

Introduction

The purpose of this chapter is to discuss the general findings in the light of previous research on the effectiveness of processing instruction and to draw some conclusions about the results of this experimentation and the implication for research at the theoretical and the pedagogical levels. The limitations of this research will be addressed and suggestions for further research offered.

6.1 Discussion of the findings

Based on some of the limitations in the processing instruction research base, the main goal of the present study was to explore the effects of processing instruction on learners' ability to interpret discourse containing a new linguistic item of Japanese: namely Japanese passive forms. An additional aim of the present study was to examine the possible effects of a re-exposure processing instruction treatment on learners' ability to interpret sentence and discourse and produce sentences containing Japanese passive forms. In order to address the research questions of this study, two classroom experiments were conducted. Overall, the results from the present study provided the following new evidence on the effectiveness of processing instruction:

1. L2 learners receiving processing instruction improved their ability to interpret and produce sentences containing Japanese passive forms;

2. L2 learners receiving processing instruction improved their ability to interpret discourse containing Japanese passive forms;

3. L2 learners receiving re-exposure to the processing instruction treatment between the first post test and the delayed post-tests made further improvement in their ability to interpret and produce Japanese passive forms at sentence level and interpret the same linguistic feature at discourse level.

The result of the present study will be discussed separately for each of the new evidence below on the effectiveness of processing instruction.

The Japanese grammar system: passive construction

The overall findings from two classroom experiments confirmed the first and second hypotheses formulated in this study according to which learners receiving processing instruction would improve in their ability to interpret sentence and discourse as well as produce sentence containing Japanese passive forms. The findings indicate that processing instruction alters the way learners of Japanese process sentences and discourse containing passive forms. Processing instruction had a very positive impact in helping learners of Japanese to apply appropriate word order processing strategies at sentence and discourse levels. Furthermore, the results demonstrate that this approach was also effective at improving learners' production. Processing instruction is responsible for the increased rate of processing and for the increased rate of accuracy in production.

As in the two previous studies (Lee and Benati, 2007c; Lee and Benati, 2007f), Japanese linguistic features were used to collect data in the present study. Lee and Benati (2007f) measured the possible effects of structured input activities on the acquisition of the past tense and the negative form in Japanese. It was the first time has been investigated the effectiveness of processing instruction utilising a non Romance language Japanese. The past tense is affected by the Lexical Preference Principle (P1b). The verbal inflection *mashita* (polite past expression) encodes pastness in a Japanese sentence. As same as the past tense, the negative form appears as a verbal inflection and expresses negative meaning of the verb and this verb appears in final position at the sentence. Therefore, the negative sentence is affected by the Sentence Location Principle (P1d). The passive forms *reru rareru* also appear as a verbal inflection at the end of sentence. Therefore, these forms are affected by the Sentence Location Principle (P1f). Moreover, passive sentences are

affected by the First Noun Principle (P2) thus learners must find who the agent in the sentence is correctly.

In the Lee and Benati (2007f) study, partisipants were Italian native speakers and were beginner level of Japanese in a private school in Italy. The results revealed that the structured input group outperformed the traditional instruction group in the sentence level interpretation tasks (past tense and negative form) and both groups equally improved their performance in the sentence level production tasks. The findings of this study provided new evidence that structured input practice was beneficial for L2 learners in helping them to interpret and produce non Romance language specifically Japanese. Lee and Benati (2007c) also investigated the effectiveness of enhanced structured input activities utilising again past tense in Japanese. Participants were all Italian native speakers studying Japanese and they were beginner level students at a private language school in Italy. The findings showed that structured input practice altered L2 learners' inappropriate processing strategy: the Lexical Preference Principle (P1b) and helped learners process Japanese past tense correctly.

The present study added new empirical evidence for the view that processing instruction affected not only on semantic strategy and verbal morphology (past tense, negative form) but also different strategy (syntactic strategy: the First Noun Principle) and different linguistic feature (passive construction). Consequently, processing instruction had impact on L2 learners' developing system. In the case of the present study, L2 learners of Japanese were native English speakers. Other new evidence was that processing instruction was an effective instruction not only for beginner level L2 learners of Japanese but also for intermediate level L2 learners of Japanese.

In the previous studies, VanPatten and Cadierno (1993), VanPatten and Oikkenon (1996), VanPatten and Fernández (2004), Morgan-Short and Bowden (2006) and VanPatten, Inclezan, Salazar and Farly (2009) addressed the effects of processing instruction on syntactic strategy namely the First Noun Principle (P2). All these studies

used the direct pronouns in Spanish to collect data. The overall findings showed that processing instruction helped L2 learners process the direct pronouns in Spanish correctly. The previous study (VanPatten and Wong, 2004) attempted to investigate the effects of processing instruction on the syntactic strategy utilising French causative. The findings demonstrated that processing instruction changed the First Noun Principle (P2) used by learners when processing the French causative. Previous studies revealed that processing instruction is an effective instructional intervention to help learners circumvent the First Noun Principle (P2) in different linguistic features (direct pronouns and causative) and languages (Spanish and French). The present study also investigated the effects of processing instruction on the First Noun Principle (P2) but in this case, sentences were constructed with a different word order. Japanese is typologically classified as an SOV language and an important fact regarding Japanese word order is that verb must be the end of the sentence. The positive findings obtained in the present study provide further evidence of the effectiveness of this approach to grammar instruction at altering the use of the First Noun Principle (P2) by L2 learners. Lee (2004) hypothesised that processing instruction can help learners of any L2 apply appropriate word order processing strategies. The findings from the present study supported this hypothesis and added a new linguistic item (passive forms) to the database.

	PI research used linguistic features of Japanese	Linguistic features	Affected principle
	Lee and Benati (2007c) Lee and Benati (2007f)	Past tense	The Lexical Preference Principle (P1b)
	Lee and Benati (2007f)	Negative form	The Sentence Location Principle (P1f)
New	The present study	Passive forms	The First Noun Principle (P2)

Table 6.1 PI research used linguistic features of Japanese

	Processing instruction research	Syntactic structures	Languages
	VanPatten and Cadierno (1993), VanPatten and Oikkenon (1996), VanPatten and Fernández (2004), Morgan-Short and Bowden (2006), VanPatten, Inclezan, Salazar and Farly (2009)	Direct object pronouns	Spanish
	VanPatten and Wong (2004)	Causative	French
New	The present study	Passive forms	Japanese

Table 6.2 Grammatical items affected by the First Noun Principle

Discourse level interpretation tasks

The findings of both classroom experiments confirmed the second hypothesis of the present study. L2 learners receiving processing instruction improved in their ability to interpret discourse as measured by a guided recall (dialogue and story version) containing Japanese passive forms. The main findings from this study clearly show that processing instruction is an effective instructional treatment at improving L2 learners' ability to process discourse containing Japanese passive forms even though learners received only sentence level practice during structured input activities. Overall, processing instruction helps learners to process the target form in both versions (dialogue and story) of a guided recall discourse task. These results confirmed Lee's hypothesis that processing instruction ''will yield significant improvement on discourse level interpretation tasks (2004: 319)''.

The previous four studies (VanPatten and Sanz, 1995; Sanz, 1997, 2004; Benati, 2001; Cheng 2002, 2004) have explored the effects of processing instruction on discourse level production tasks. Discourse level production tasks (video narration) written and oral mode were developed the VanPatten and Sanz (1995) study. Benati (2001) also developed an oral discourse level production task and Cheng (2002, 2004) created a guided composition written task. The overall findings from these four studies showed that processing instruction effectively helped learners alter inappropriate processing strategies even when measured on less controlled tasks and on discourse level production tasks

written and oral mode. These studies provided further evidence of the positive effects of processing instruction in more communicative (discourse) production tasks.

The findings from the present study provided new empirical support for the view that processing instruction is an effective instructional intervention which enhances learners' ability to interpret discourse (see also the 'Discourse Hypothesis formulated by Benati and Lee, 2008). Therefore, we now add our findings that through processing instruction learners can not only use the target grammatical features to produce discourse but also can interpret the target item in the discourse. The effects of processing instruction are observable in discourse-oriented types of tasks (production and interpretation) rather than only sentence level tasks.

Re-exposure to the processing instruction treatment

The results of the second experiment carried out in the present study provided support and confirmed the third and forth hypotheses. L2 learners, receiving re-exposure to the processing instruction treatment between the immediate post-teat and the delayed post-test further improved in their ability to interpret and produce sentences containing Japanese passive forms as well as interpret Japanese passive forms embedded in discourse. The same results were obtained in the dialogue and story versions of the guided recall discourse level tasks.

The previous eleven studies (VanPatten and Cadierno, 1993; Cadierno, 1995; Benati, 2001, 2004a; Farley, 2001a, 2001b, 2004b; Cheng, 2002; Morgan-Short and Bowden, 2006; Lee, Benati, Sanchez and McNulty, 2007; Lee and Benati, 2007b) measured the possible delayed effects of processing instruction from one week to over one month after the end of the instructional treatment. The results of the participants' performance did not improve significantly from the immediate post-test to the delayed post-test. In contrast, the present study clearly showed that the re-exposure to the processing instruction treatment

conveyed a further positive effect on the learners' performance. Their performance significantly improved between the immediate post-test and the delayed post-test.

In the series of previous research, Lee and Benati (2007) created enhanced structured input by combining structured input and input enhancement techniques in order to make processing instruction more effective. The aim of input enhancement technique is to make the target form more salient so that it attracts the learners' attention. Enhanced structured input activities may more enrich L2 learners' intake than original structured input activities. To investigate whether enhanced input promotes greater form-meaning connection than does unenhanced input, Lee and Benati (2007a, 2007b, 2007c) carried out classroom based experiments. In their studies, the target items were Italian gender agreement affected by the Preference Nonredundancy Principle (P1c) and the Meaning-before-Nonmeaning Principle (P1d), Italian future tense and Japanese past tense are affected by the Lexical Preference Principle (P1b). The enhanced structured input activities consisted of written (bolding and underlining only on the target form) and aural (raising instructor's voice to pronounce with tightening her/his muscles) input. The results revealed that enhanced and unenhanced structured input activities equally helped learners' process target grammatical features. In other words, input enhancement technique did not facilitate the effectiveness of structured input activities. Compared to these results, re-exposure to the processing instruction treatment provided positive effects on the acquisition of the Japanese passive construction. The aim of both input enhancement technique and re-exposure treatment was to make processing instruction more effective. However, only re-exposure treatment was a beneficial device for making more effective processing instruction. According to Anderson (1985), multiple or re-exposure may allow learners to reactivate grammatical information presented under the same circumstances. The processing instruction group received the same instructional treatment twice at different times but in the same circumstances in the second experiment. It might be the cause of positive effects of re-exposure to the processing instruction treatment. The main findings from the second experiment provided

new evidence that L2 learners receiving re-exposure to the processing instruction treatment improved their performance from the immediate post-test to the delayed post-test. Re-exposure to this instructional input-based treatment helps learners make greater gains in both sentence level (interpretation and production) and discourse level tasks (guided recall).

6.2 Implications of the present study

The main outcome from the present study is that L2 learners receiving processing instruction not only improved in their ability to interpret the target feature at sentence level, but also had an impact on the way learners process discourse containing the target feature. Furthermore, additional training in processing instruction helped learners to further improve their performance at sentence and discourse level. The outcome of this study has contributions at theoretical and pedagogical levels. As far as the theoretical level is concerned, the contributions of the present study are threefold:

It contributes with new data to the theoretical assumption that processing instruction is an effective approach to grammar instruction to alter an inappropriate processing strategy, namely the First Noun Principle. The findings from the present study have clearly demonstrated the effects of processing instruction in a non-Romance language (Japanese) and on a new form (Japanese passive constructions);

It contributes with new data to the Discourse Hypothesis (Benati and Lee, 2008). Considering the positive results of processing instruction with discourse level interpretation tasks, it can be concluded that processing instruction has a significant impact on input processing. The instruction learners received was presented at the sentence level and it was proved that processing instruction was effective measured at the sentence level and discourse level;

It contributes to the theoretical assumption that processing instruction affects the learners' developing system. Only by altering the developing system would we get effects on tasks that were not practiced during instruction.

In terms of the pedagogical implications, the present study seems to suggest that processing instruction has a clear effect on L2 learners' developing system by improving learners' performance not only at sentence level but also at discourse level even though learners were not practiced during instruction.

Another pedagogical implication is that the use of re-exposure treatments does have an impact on learners' ability to process and produce sentence and discourse containing a target form or structure. Repeated exposure treatments are a beneficial device for teaching grammaer for L2 learners.

6.3 Limitation of the present study and suggestions for further research

The main aim of the present study was to find empirical evidence to demonstrate the hypothesis that processing instruction yields significant improvement on discourse level interpretation tasks. Data was successfully collected in the two classroom experiments utilising Japanese passive forms. Despite the positive results obtained in the present study, some limitations must be outlined.

The first limitation of the present study is the small number of participants used in each of the two experiments. The total number of participants was twenty nine. The second limitation is that this study did not have non re-exposure processing instruction group to compare to re-exopsure processing instruction group in the second experiment. Further research should address this limitation by collecting more data with a greater number of subjects in order to provide further support to the hypotheses formulated in this research.

In previous studies (VanPatte and Cadierno, 1993; Cadierno, 1995; Benati, 2001; Cheng, 2002; VanPatten and Wong. 2004; Benati, Lee, and Houghton, 2008; Benati and Lee, 2008; Benati, Lee and Laval, 2008) the relative effects of processing instruction were compare to traditional instruction. Further research investigating the effects of processing instruction and re-exposure to processing instruction on interpretation discourse level tasks should compare this instructional approach with other approaches to grammar instruction.

The target item in the preset study was the Japanese passive form which is affected by the First Noun Principle. In order to strengthen and to generalise the effects of processing instruction on discourse level interpretation tasks, further study should investigate the effect of processing instruction on the acquisition of others grammatical features which may be affected by different processing strategies.

Re-exposure to the processing instruction treatment contributed to learners' further improvement in their ability to interpret and produce Japanese passive forms. Further research should investigate the benefit of additional processing instruction treatment on different processing strategies in different languages. Further research should also investigate the effects of multiple re-exposure to the processing instruction treatment.

6.4 Conclusion

The main aim of the present study was to investigate the effects of processing instruction on the acquisition of the Japanese passive forms utilising discourse level interpretation tasks, sentence level interpretation and production tasks. In addition, the present study aimed to examine the possible benefits of re-exposure to the processing instruction treatment on further enhancing the ability for L2 learners to interpret sentence and discourse containing Japanese passive forms and produce sentences containing the same linguistic feature. Overall, the present study provided new empirical data in support of the role of processing instruction in second language acquisition. Firstly, it provided new evidence of the effectiveness of processing instruction at improving learners' performance on interpretation discourse level tasks. The results demonstrated that processing instruction was significantly and extremely successful in helping learners to interpret the target structure when it was embedded in discourse.

Secondly, it provided new evidence of the effectiveness of processing instruction on a different linguistic feature of the Japanese grammar system (passive forms). Processing instruction improves learners' interpretation and production of sentences containing the

target form. This study adds to the existing database a new linguistic item, the passive construction in Japanese.

Thirdly, it provided new evidence that learners receiving re-exposure to the processing instruction treatment further improved in their ability to interpret and produce the target feature at sentence level and interpret the target feature at discourse level.

Finally, it provided further evidence that processing instruction managed to change the learners' inappropriate processing strategy in the case of the target form. Processing instruction helped L2 learners to alter a processing problem (First Noun Strategy) in sentences containing Japanese passive forms.

These contributions of the present study should be added to the series of processing instruction research data base.

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APPENDICES

Appendix A Consent Form

Title of Research: The effect of Processing Instruction on the acquisition of Japanese linguistic feature	
Investigator's name: NORIKO HIKIMA	
To be completed by the participant/patient/volunteer/informant/interviewee/ parent/guardian (delete as necessary)	
1. Have you read the information sheet about this study?	YES/NO
2. Have you had an opportunity to ask questions and discuss this study?	YES/NO
3. Have you received satisfactory answers to all your questions?	YES/NO
4. Have you received enough information about this study?	YES/NO
5. Which researcher/investigator have you spoken to about this study?	……
6. Do you understand that you are free to withdraw from this study:	.
• at any time?	YES/NO
• without giving a reason for withdrawing?	YES/NO
• without affecting your future with the University/studies/medical or nursing care?	YES/NO
7. Do you agree to take part in this study?	YES/NO
Signed	Date
Name in block letters	
Signature of investigator	Date

Appendix B Explicit Information

①The Japanese passive has two different types.

The direct passive sentence is equivalent to an English passive sentence.

Active sentence　　**Tom**は　Chris を　たたきました。　　Tom hit Chris.

Passive sentence　　Chris は　**Tom**に　たたかれました。Chris was hit by Tom.

The indirect passive sentence expresses the idea that a patient was affected by an agent. It implies that a patient was aggrieved in some way by an agent.

Active sentence

Tomは　Chris のケーキを　たべました。　Tom ate Chris's cake.

Passive sentence

Chris は　**Tom**に　ケーキを　たべられました。Chris's cake was eaten by Tom.

patient　agent　direct object

②When a passive sentence is constructed, the verb must be changed to a passive verb form.

In the passive sentence, **に** is attached to an agent and shows who does the action. **に** corresponds to "by" in the English passive sentence.

R1V + れる

たたきます　→　たたか＋**れる**　→　たたかれる

make stem of ない form

→change to a past form たたか**れ**た→change to a past *masu* form たたか**れ**ました

よびます　→　よば＋**れる**　→　よばれる

make stem of ない form

→change to a past form よば**れ**た→change to a past *masu* form よば**れ**ました

R2 V +られる

たべる→drop る→たべ＋**られる**→たべられる→change to past form たべ**られ**た

→change to past *masu* form たべ**られ**ました

IRR　　きます→　**こられる**→　こられた→　**こられました**

　　します→　**される**→　された→　**されました**

③Keep in mind that the first noun is not an agent (the doer) in the following passive sentence.

Chris は　**Tom** に　たたかれました。Chris was hit by Tom.

Tom is an agent (the person who does the action.)

Chris is a patient (the person who is affected.)

Particle に is a little word but に has important role in the passive sentence. に shows who does the action in the passive sentence.

Please listen or read carefully until the end of sentence.

The end of the verb form is a key to determine whether the sentence is a passive or an active form.

Please pay attention Who did what to whom!

What is the meaning of the following sentence?

くまくんは　よしこちゃんに　キスされました。

A

B

You are right if you selected A, Yoshiko chan kissed Kuma kun.

Appendix C Structured Input Activities for the first treatment

C-1: Structured input activities 1

(1) Read each sentence and select a sentence that matches what you read.

1 くまくんは　クリスに「こんにちは」と　いわれました。
①☐ Kuma said “hello” to Chris　　②☐ Chris said “hello” to Kuma

2 くまくんは　クリスに　たのみました。
①☐ Kuma begged Chris　　②☐ Chris begged Kuma

3 クリスは　くまくんに　りんごを　たべられました。
①☐ Kuma ate Chris’s apple　　②☐ Chris ate Kuma’s apple.

4 くまくんは　クリスに　みられました。
①☐ Kuma looked at Chris　　②☐ Chris looked at Kuma.

5 くまくんは　クリスを　ほめました。
①☐ Kuma complimented Chris.　　②☐ Chris complimented Kuma

6 くまくんは　クリスに　きかれました。
①☐ Kuma asked Chris　　②☐ Chris asked Kuma

7 クリスは　くまくんに　たたかれました。
①☐ Kuma hit Chris　　②☐ Chris hit Kuma

8 クリスは　くまくんに　しかられました。
①☐ Kuma scolded Chris　　②☐ Chris scolded Kuma

9 くまくんは　クリスに　キスされました。
①☐ Kuma kissed Chris　　②☐ Chris kissed Kuma.

10 くまくんは　クリスの　はぶらしを　つかいました。
①☐ Kuma used Chris’toothbrush　　②☐ Chris used Kuma ’toothbrush

はぶらし　toothbrush

(2) Each sentence below indicates the possibility of happening in your daily life. Have you had same experiences? Read each sentence and tick "I have had a same experience" or " I have never had a same experience"

	I have had the same experience	I have never had the same experience
1 せんせいに　しかられました。	☐	☐
2 せんせいに　ほめられました。	☐	☐
3 せんせいに　おこされました。	☐	☐
4 せんせいに　ペンを　つかわれました。	☐	☐
5 せんせいに　パブに　さそわれました。	☐	☐
6 せんせいに　かいものを　たのまれました。	☐	☐
7 せんせいに　ビールを　のまれました。	☐	☐
8 せんせいに　クリスプを　たべられました。	☐	☐
9 せんせいに　「こんにちは」といわれました。	☐	☐
10 せんせいに　たたかれました。	☐	☐

Compare your result with a partner.

Did you select the same item?

C-2 Structured input activities 2

(1) Listen to each sentence and select a sentence that matches what you hear.

1	①☐ Yoshiko asked Tom.	②☐ Tom asked Yoshiko.
2	①☐ Yoshiko complimented Tom.	②☐ Tom complimented Yoshiko.
3	①☐ Yoshiko kissed Tom.	②☐ Tom kissed Yoshiko.
4	①☐ Yoshiko woke Tom up.	②☐ Tom woke Yoshiko up.
5	①☐ Yoshiko broke Tom's cup	②☐ Tom broke Yoshiko's cup
6	①☐ Yoshiko called Tom.	②☐ Tom called Yoshiko.
7	①☐ Yoshiko looked at Tom.	②☐ Tom looked at Yoshiko.
8	①☐ Yoshiko invited Tom	②☐ Tom invited Yoshiko
9	①☐ Yoshiko scolded Tom	②☐ Tom scolded Yoshiko.
10	①☐ Yoshiko said to Tom.	②☐ Tom said to Yoshiko.

2) Each sentence describes an event happening to Victoria Beckham.
Do you think that each statement is likely or unlikely to happen? Read each sentence and tick "likely" or " unlikely"

	Likely	Unlikely
1 David に　キスされました。	☐	☐
2 David に　おこされました。	☐	☐
3 David に　そうじを　たのまれました。	☐	☐
4 David に　おかねを　つかわれました。	☐	☐
5 David に　メールを　みられました。	☐	☐
6 David に　しょくじに　さそわれました。	☐	☐
7 David に　プリンセスと　よばれました。	☐	☐
8 David に　ほめられました。	☐	☐
9 David に　しかられました。	☐	☐
10 David に　たたかれました。	☐	☐

Compare your response with a partner and decide which happening is the most likely or unlikely.

Do you think David and Victoria love each other?

Instructor's script

1 よしこちゃんは　トムさんに　きかれました。
2 よしこちゃんは　トムさんに　ほめられました。
3 トムさんは　よしこちゃんに　キスしました。
4 よしこちゃんは　トムさんを　おこしました。
5 トムさんは　よしこちゃんに　コップを　こわされました。
6 トムさんは　よしこちゃんに　よばれました。
7 よしこちゃんは　トムさんを　みました。
8 トムさんは　よしこちゃんに　さそわれました。
9 よしこちゃんは　トムさんに　しかられました。
10 トムさんは　よしこちゃんに　いわれました。

7 passive sentences
3 active sentences

C-3 Structured input activities 3

(1) Read to each sentence and select a sentence that matches what you read.

1 クリスは　よしこちゃんに　ケーキを　たべられました。
①☐　Yoshiko ate Chris's cake.　②☐ Chris ate Yoshiko's cake.

2 クリスは　よしこちゃんに　「こんにちは」と　いいました。
①☐　Yoshiko said hello to Chris.　②☐ Chris said hello to Yoshiko.

3 よしこちゃんは　クリスに　ノートを　みられました。
①☐　Yoshiko looked at Chris's note.　②☐ Chris looked at Yoshiko's note.

4 クリスは　よしこちゃんに　ジュースを　のまれました。
①☐　Yoshiko drank Chris's juice.　②☐ Chris drank Yoshiko's juice.

5 よしこちゃんは　クリスに　よばれました。
①☐　Yoshiko called Chris.　②☐ Chris called Yoshiko.

6 よしこちゃんは　クリスを　たたきました。
①☐　Yoshiko hit Chris.　②☐ Chris hit Yoshiko.

7 クリスは　よしこちゃんに じゅうしょを　きかれました。
①☐　Yoshiko asked Chris's address.　②☐ Chris asked Yoshiko's address.

8 よしこちゃんは　クリスに　おこされました。
①☐　Yoshiko woke Chris up.　②☐ Chris woke Yoshiko up.

9 クリスは　よしこちゃんに コンピューターを　こわされました。
①☐　Yoshiko broke Chris's computer.　②☐ Chris broke Yoshiko's computer.

10 よしこちゃんは　クリスに　キスされました。
①☐　Yoshiko kissed Chris.　②☐ Chris kissed Yoshiko.

じゅうしょ　address

(2) If your classmate gave you the situation described in the sentences below, do you think it would be possible to sue her or him? Read each sentence and tick "It would be possible to sue her or him" or "it would be difficult to sue her or him".

	It would be possible to sue her or him	**It would be difficult to sue her or him**
1classmate に　くるまを　こわされました。	☐	☐
2classmate に　credit card を　つかわれました。	☐	☐
3classmate に クリスプを　たべられました。	☐	☐
4classmate に　ビールを　のまれました。	☐	☐
5classmate に　たたかれました。	☐	☐
6classmate に　cocaine のみつゆを　たのまれました。	☐	☐
7classmate に　nickname で よばれました。	☐	☐
8classmate に　にっきを　みられました。	☐	☐
9classmate に　pin code を　きかれました。	☐	☐
10classmate に　secret club に　さそわれました。	☐	☐

みつゆ　smuggling,　にっき diary

Compare your response with a partner and decide which item would be the most possible to sue?

C-4 Structured input activities 4

(1) Listen to each sentence and select a sentence that matches what you hear.

1	①☐ Yoshiko ate Kuma's cake	②☐ Kuma ate Yoshiko's cake.
2	①☐ Yoshiko invited Kuma	②☐ Kuma invited Yoshiko
3	①☐ Yoshiko drank Kuma's milk	②☐ Kuma drank Yoshiko'smilk
4	①☐ Yoshiko hit Kuma	②☐Kuma hit Yoshiko
5	①☐ Yoshiko said "hello"to Kuma	②☐ Kuma said "hello" toYoshiko
6	①☐ Yoshiko kissed Kuma	②☐Kuma kissed Yoshiko
7	①☐ Yoshiko's milk was drunk by Kuma	②☐Kuma's milk was drunk by Yoshiko
8	①☐ Yoshiko complimented Kuma's clothes	②☐Kuma complimented Yoshiko's clothes
9	①☐ Yoshiko called Kuma	②☐Kuma called Yoshiko.
10	①☐ Yoshiko woke Kuma up	②☐Kuma woke Yoshiko up

(2) If you experienced the situation described in the sentences below, would you be angry?
Read each sentence and tick "I would be angry" or "I wouldn't mind".

	I would be angry	I wouldn't mind
1 ともだちに　コンピューターを　こわされました。	☐	☐
2 ともだちに　けいたいでんわを　つかわれました。	☐	☐
3 ともだちに　にっきを　みられました。	☐	☐
4 ともだちに　へやのそうじを　たのまれました。	☐	☐
5 ともだちに　たかいワインを　のまれました。	☐	☐
6 ともだちに　たんじょうびのケーキを　たべられました。	☐	☐
7 ともだちに　しかられました。	☐	☐
8 ともだちに　よなかに　おこされました。	☐	☐
9 ともだちに　としを　きかれました。	☐	☐
10 ともだちに　たたかれました。	☐	☐

けいたいでんわ　mobile phone　　にっき diary　そうじ cleaning　　たんじょうび birthday

Compare your result with a partner. Do you think your partner is a very angry person?

Instructor’s script

1 よしこちゃんはくま君にケーキを食べられました。
2 よしこちゃんはくま君をさそいました。
3 くま君はよしこちゃんのミルクを飲みました。
4 くま君はよしこちゃんにたたかれました。
5 よしこちゃんはくま君に「こんにちは」といわれました。
6 くま君はよしこちゃんにキスされました。
7 くま君はよしこちゃんにミルクを飲まれました。
8 くま君はよしこちゃんに服をほめられました。
9 よしこちゃんはくま君をよびました。
10 よしこちゃんはくま君におこされました。

C-5 Structured input activities 5

(1) Read each sentence and select a sentence that matches what you read.

1 くまくんは　クリスに　キスされました。
①☐ Kuma kissed Chris　②☐ Chris kissed Kuma

2 くまくんは　クリスに　かいものを　たのみました。
①☐ Kuma begged Chris to go shopping　②☐ Chris begged Kuma to go shopping

3 クリスは　くまくんに　よばれました。
①☐ Kuma called Chris.　②☐ Chris called Kuma.

4 クリスは　くまくんに　にっきを　みられました。
①☐ Kuma looked at Chris's diary　②☐ Chris looked at Kuma's diary

5 くまくんは　クリスの　でんわを　こわしました。
①☐ Kuma broke Chris's phone.　②☐ Chris broke Kuma's phone.

6 くまくんは　クリスに　なまえを　きかれました。
①☐ Kuma asked Chris's name　②☐ Chris asked Kuma's name

7 クリスは　くまくんに　りんごを　たべられました。
①☐ Kuma ate Chris's apple　②☐ Chris ate Kuma's apple

8 クリスは　くまくんに　しかられました。
①☐ Kuma scolded Chris　②☐ Chris scolded Kuma

9　くまくんは　クリスに　いいました。
①☐ Kuma said to Chris　②☐ Chris said to Kuma.

10 クリスは　くまくんに　たたかれました。
①☐ Kuma hit Chris　②☐ Chris hit Kuma

(2) Each sentence below indicates the possibility of happening in your daily life. Have you had same experiences? Read each sentence and tick "I have had a same experience" or "I have never had a same experience"

	I have had the same experience.	I have never had the same experience.
1 ともだちに　intelligent といわれました。	☐	☐
2 ともだちに　かばんを　ほめられました。	☐	☐
3 ともだちに　キスされました。	☐	☐
4 ともだちに　けいたいでんわを　つかわれました。	☐	☐
5 ともだちに　クラブに　さそわれました。	☐	☐
6 ともだちに　かいものを　たのまれました。	☐	☐
7 ともだちに　コーヒーを　のまれました。	☐	☐
8 ともだちに　smart と　いわれました。	☐	☐
9 ともだちに　ペンを　こわされました。	☐	☐
10 ともだちに nickname で　よばれました。	☐	☐

Compare your result with a partner.

Did you select the same items?

C-6 Structured input activities 6

(1) Listen to each sentence and select a sentence that matches what you hear.

1	①☐ Yoshiko begged Kuma to go shopping.	②☐ Kuma begged Yoshiko to go shopping.
2	①☐ Yoshiko complimented Kuma's clothes.	②☐ Kuma complimented Yoshiko's clothes.
3	①☐ Yoshiko asked Kuma's age.	②☐ Kuma asked Yoshiko's age.
4	①☐ Yoshiko drank Kuma's juice.	②☐ Kuma drank Yoshiko's juice.
5	①☐ Yoshiko broke Kuma's phone.	②☐ Kuma broke Yoshiko's phone.
6	①☐ Yoshiko ate Kuma's apple.	②☐ Kuma ate Yoshiko's apple.
7	①☐ Yoshiko said hello to Kuma .	②☐ Kuma said hello to Yoshiko .
8	①☐ Yoshiko invited Kuma to go out.	②☐ Kuma invitedYoshiko to go out.
9	①☐ Yoshiko scoleded Kuma	②☐ Kuma scolded Yoshiko.
10	①☐ Yoshiko used Kuma's computer.	②☐ Kuma used Yoshiko's computer.

(2) Each sentence below describes an event happening between husband and wife or between a teacher and student. Do you think the each statement applies between husband and wife relationship or between a teacher and student relationship? Read each sentence and tick "between husband and wife' relationship" or "between a teacher and student' relationship"

? will be a husband, wife, teacher or student

		" between husband and wife's relationship"	"between a teacher and student's relationship"
1	？に　えいがに　さそわれました。	☐	☐
2	？に　しかられました。	☐	☐
3	？に　oyster card を　つかわれました。	☐	☐
4	？に　コップを　こわされました。	☐	☐
5	？に　ペンを　ほめられました。	☐	☐
6	？に　キスされました。	☐	☐
7	？に　コピーを　たのまれました。	☐	☐
8	？に　sweetheart と　よばれました。	☐	☐
9	？に　たいじゅうを　きかれました。 weight	☐	☐
10	？に　おこされました。	☐	☐

Compare your result with a partner.

How many items did you tick from the teacher and student's relationship?

If all these items happened between you and your teacher, could you still respect your teacher?

Instructor’s script

1 よしこちゃんは　くま君に　買い物を　たのまれました。
2 よしこちゃんは　くま君に　服を　ほめられました。
3 くま君は　よしこちゃんに　年を　ききました。
4 よしこちゃんは　くま君に　ジュースを　飲まれました。
5 くま君は　よしこちゃんに　電話を　こわされました。
6 よしこちゃんは　くま君の　りんごを　たべました。
7 くま君は　よしこちゃんに　こんにちはと　言われました。
8 くま君は　よしこちゃんに　デートに　さそわれました。
9 よしこちゃんは　くま君に　しかられました。
10 くま君は　よしこちゃんに　コンピューターを　使われました。

C-7 Structured input activities 7

(1) Read each sentence and select a sentence that matches what you read.

1 くまくんは　クリスに　おこされました。
①☐ Kuma woke Chris up　　②☐ Chris woke Kuma up

2 くまくんは　クリスに　たのまれました。
①　☐ Kuma begged Chris　　②☐ Chris begged Kuma

3 クリスは　くまくんに　ジュースを　のまれました。
①☐ Kuma drank Chris's juice.　　②☐ Chris drank Kuma's juice.

4 くまくんは　クリスに　「こんにちは」と　いわれました。
①☐ Kuma said hello to Chris.　　②☐ Chris said hello to Kuma.

5 くまくんは　クリスを　しかりました。
①☐ Kuma scolded Chris.　　②☐ Chris scolded Kuma

6 くまくんは　クリスの　vodka を　のみました。
①☐ Kuma drank Chris's vodka.　　②☐ Chris drank Kuma's vodka.

7 クリスは　くまくんを　ほめました。
①☐ Kuma complimented Chris　　②☐ Chris complimented Kuma

8 クリスは　くまくんに　しかられました。
①☐Kuma scolded Chris　　②☐ Chris scolded Kuma

9 くまくんは　クリスに　キスされました。
①☐ Kuma kissed Chris　　②☐ Chris kissed Kuma.

10 くまくんは　クリスに　コップを　こわされました。
①☐ Kuma broke Chris'cup.　　②☐ Chris broke Kuma 'cup.

(2) Each sentence below indicates the possibility of happening in your daily life. Have you had same experiences? Read each sentence and tick "I have had a same experience" or "I have never had a same experience"

	I have had the same experience.	I have never had the same experience.
1 Police officer に　よばれました。	☐	☐
2 Police officer に　ほめられました。	☐	☐
3 Police officer に　しかられました。	☐	☐
4 Police officer に　ペンを　つかわれました。	☐	☐
5 Police officer に　えいがに　さそわれました。	☐	☐
6 Police officer に　ビールを　のまれました。	☐	☐
7 Police officer に　じゅうしょを　きかれました。	☐	☐
8 Police officer に　たたかれました。	☐	☐
9 Police officer に drive licence を　みられました。	☐	☐
10 Police officer に crisps を　たべられました。	☐	☐

Compare your result with a partner.

How many same experiences did you have?

If you had many experiences, what would you think happening next?

C-8 Structured input activities 8

(1) Listen to each sentence and select a sentence that matches what you hear.

1	①☐ Yoshiko complimented Tom's shoes.	②☐ Tom complimented Yoshiko's shoes.
2	①☐ Yoshiko woke Tom up .	②☐ Tom woke Yoshiko up.
3	①☐ Yoshiko said hello to Tom.	②☐ Tom said hello to Yoshiko.
4	①☐ Yoshiko ate Tom's breakfast.	②☐ Tom ate Yoshiko's breakfast.
5	①☐ Yoshiko kissed Tom.	②☐ Tom kissed Yoshiko
6	①☐ Yoshiko used Tom's computer.	②☐ Tom used Yoshiko's computer.
7	①☐ Yoshiko invited Tom to go to a pub.	②☐ Tom invited Yoshiko to go to a pub.
8	①☐ Yoshiko hit Tom	②☐ Tom hit Yoshiko
9	①☐ Yoshiko looked at Tom	②☐ Tom looked at Yoshiko.
10	①☐ Yoshiko drank Tom's vodka.	②☐ Tom drank Yoshiko's vodka.

2) Each sentence below describes possible event in the two traditional tales, which are "Little Red Riding Hood" and "Cinderella". You should decide in each case whether the statement refers to same thing "the wolf did to Little Red Riding Hood" or to same thing "the Stepmother did to Cinderella"

	"the wolf did to Little red riding-hood"	" the wicked Stepmother did to Cinderella"
1 ？に　そうじを　たのまれました。	☐	☐
2 ？に　なまえを　きかれました。	☐	☐
3 ？に　みられました。	☐	☐
4 ？に　よばれました。	☐	☐
5 ？に　かばんを　つかわれました。	☐	☐
6 ？に　ドアを　こわされました。	☐	☐
7 ？に　おこされました。	☐	☐
8 ？に　たたかれました。	☐	☐
9 ？に　しかられました。	☐	☐
10 ？に　たべられました。	☐	☐

Compare your result with a partner. Which story do you prefer?

Instructor's script

1 よしこちゃんはトムにくつをほめられました。
2 トムはよしこちゃんに起こされました。
3 よしこちゃんはトムに「こんにちは」と言われました。
4 トムはよしこちゃんの朝ごはんを　食べました。
5 トムはよしこちゃんにキスされました。
6 よしこちゃんはトムのコンピューターを使いました。
7 トムはよしこちゃんにパブにさそわれました。
8 よしこちゃんはトムにたたかれました。
9 よしこちゃんはトムを見ました。
10 トムはよしこちゃんにウオッカをを飲まれました。

Appendix D Structured Input Activities for the re-exposure treatment

D-1 Structured input activities 9

(1) Read each sentence and select a sentence that matches what you read.

1 くまくんは　クリスに　おこされました。
①☐ Kuma woke Chris up　　②☐ Chris woke Kuma up

2 くまくんは　クリスに　たのみました。
①☐ Kuma begged Chris　　②☐ Chris begged Kuma

3 クリスは　くまくんに　りんごを　たべられました。
①☐ Kuma ate Chris's apple　　②☐ Chris ate Kuma's apple.

4 くまくんは　クリスに　みられました。
①☐ Kuma looked at Chris　　②☐ Chris looked at Kuma.

5 くまくんは　クリスを　ほめました。
①☐ Kuma complimented Chris.　　②☐ Chris complimented Kuma

6 くまくんは　クリスに　きかれました。
①☐ Kuma asked Chris　　②☐ Chris asked Kuma

7 クリスは　くまくんに　たたかれました。
①☐ Kuma hit Chris　　②☐ Chris hit Kuma

8 クリスは　くまくんに　しかられました。
①☐ Kuma scolded Chris　　②☐ Chris scolded Kuma

9 くまくんは　クリスに　よばれました。
①☐ Kuma called Chris　　②☐ Chris called Kuma.

10 くまくんは　クリスの　でんわを　つかいました。
①☐ Kuma used Chris'phone　　②☐ Chris used Kuma 'phone

2) Today is the first date for you with the person who has contacted you by internet.

If the person gave you the situation described in the sentences below in the first date, would you like to go out with the same person again?

Read each sentence and tick "Yes" or "No"

	Yes	No
1 person に　ジュースを　のまれました。	☐	☐
2 person に　ケーキを　たべられました。	☐	☐
3 person に　キスされました。	☐	☐
4 person に　かばんを　ほめられました。	☐	☐
5 person に　たいじゅうを　きかれました。	☐	☐
6 person に　えいがに　さそわれました。	☐	☐
7 person に　ペンを　つかわれました。	☐	☐
8 person に　good looking と　いわれました。	☐	☐
9 person に　かいものを　たのまれました。	☐	☐
10 person に　かさを　こわされました。	☐	☐

たいじゅう　weight ,　かさ umbrella

Compare your result with a partner. How many results are same?

D-2 Structured input activities 10

(1) Listen to each sentence and select the sentence that matches what you hear.

1	①☐ Yoshiko asked Tom.	②☐ Tom asked Yoshiko.
2	①☐ Yoshiko complimented Tom.	②☐ Tom complimented Yoshiko.
3	①☐ Yoshiko kissed Tom.	②☐ Tom kissed Yoshiko.
4	①☐ Yoshiko woke Tom up.	②☐ Tom woke Yoshiko up.
5	①☐ Yoshiko ate Tom's biscuit	②☐ Tom ate Yoshiko's biscuit
6	①☐ Yoshiko called Tom.	②☐ Tom called Yoshiko.
7	①☐ Yoshiko looked at Tom.	②☐ Tom looked at Yoshiko.
8	①☐ Yoshiko invited Tom	②☐ Tom invited Yoshiko
9	①☐ Yoshiko scolded Tom	②☐ Tom scolded Yoshiko.
10	①☐ Yoshiko said to Tom.	②☐ Tom said to Yoshiko.

2) If you are heard by your boyfriend or girlfriend as described below, would you break up with your partner?
Read each sentence and tick "Yes" or " No"

	Yes	No
1 partner に 'stupid'といわれました。	☐	☐
2 partner に　くるまを　こわされました。	☐	☐
3 partner に　よなかに　おこされました。	☐	☐
4 partner に　おかねを　つかわれました。	☐	☐
5 partner に　たかい　ワインを　のまれました。	☐	☐
6 partner に　テストの cheating を　たのまれました。	☐	☐
7 partner に　にっきを　みられました。	☐	☐
8 partner に　gamble に　さそわれました。	☐	☐
9 partner に　しかられました。	☐	☐
10 partner に　たたかれました。	☐	☐

にっき　diary,　　よなか midnight

Compare your result with a partner. Do you agree with your partner's opinion?

Instructor's script

1 よしこちゃんは　トムさんに　聞かれました。
2 よしこちゃんは　トムさんに　ほめられました。
3 トムさんは　よしこちゃんに　キスされました。
4 よしこちゃんは　トムさんを　起こしました。
5 トムさんは　よしこちゃんに　ビスケットを　食べられました。
6 トムさんは　よしこちゃんに　よばれました。
7 よしこちゃんは　トムさんを　見ました。
8 トムさんは　よしこちゃんに　さそわれました。
9 よしこちゃんは　トムさんを　しかりました。
10 トムさんは　よしこちゃんに　言われました。

7 passive sentences
3 active sentences

D-3 Structured input activities 11

(1) Read each sentence and select a sentence that matches what you read.

1 くまくんは　クリスに　ジュースを　のまれました。
①☐ Kuma drank Chris's juice　②☐ Chris drank Kuma's juice

2 くまくんは　クリスに　かいものを　たのみました。
①☐ Kuma begged Chris to go shopping　②☐ Chris begged Kuma to go shopping

3 クリスは　くまくんに　よばれました。
①☐ Kuma called Chris.　②☐ Chris called Kuma.

4 クリスは　くまくんに　にっきを　みられました。
①☐ Kuma looked at Chris's diary　②☐ Chris looked at Kuma's diary

5 くまくんは　クリスの　でんわを　こわしました。
①☐ Kuma broke Chris's phone.　②☐ Chris broke Kuma's phone.

6 くまくんは　クリスに　なまえを　きかれました。
①☐ Kuma asked Chris's name　②☐ Chris asked Kuma's name

7 クリスは　くまくんに　りんごを　たべられました。
①☐ Kuma ate Chris's apple　②☐ Chris ate Kuma's apple

8 クリスは　くまくんに　しかられました。
①☐ Kuma scolded Chris　②☐ Chris scolded Kuma

9　くまくんは　クリスに　いいました。
①☐ Kuma said to Chris　②☐ Chris said to Kuma.

10 クリスは　くまくんに　たたかれました。
①☐ Kuma hit Chris　②☐ Chris hit Kuma

(2) Each sentence below indicates the possibility of happening in your daily life. Have you had same experiences? Read each sentence and tick "I have had a same experience" or "I have never had a same experience"

	I have had the same experience.	I have never had the same experience
1 neighbor に　street で　よばれました。	☐	☐
2 neighbor に　baby-sitting を　たのまれました。	☐	☐
3 neighbor に　じてんしゃを　つかわれました。	☐	☐
4 neighbor に　ほめられました。	☐	☐
5 neighbor に　「こんにちは」と　いわれました。	☐	☐
6 neighbor に　パーティーに　さそわれました。	☐	☐
7 neighbor に　キスされました。	☐	☐
8 neighbor に　よなかに　おこされました。	☐	☐
9 neighbor に　しかられました。	☐	☐
10 neighbor に　まどを　こわされました。	☐	☐

Compare your result with a partner. Do you think your partner should move to other place?

D-4 Structured input activities 12

(1) Listen to each sentence and select a sentence that matches what you hear.

1	①☐ Yoshiko complimented Kuma.	②☐ Kuma complimented Yoshiko.
2	①☐ Yoshiko invited Kuma	②☐ Kuma invited Yoshiko
3	①☐ Yoshiko drank Kuma's milk	②☐ Kuma drank Yoshiko'smilk
4	①☐ Yoshiko hit Kuma	②☐Kuma hit Yoshiko
5	①☐ Yoshiko said "hello"to Kuma	②☐ Kuma said "hello" toYoshiko
6	①☐ Yoshiko scolded Kuma	②☐Kuma scoldedYoshiko
7	①☐ Yoshiko kissed Kuma	②☐Kuma kissedYoshiko
8	①☐ Yoshiko used Kuma's phone	②☐Kuma usedYoshiko's phone
9	①☐ Yoshiko called Kuma	②☐Kuma called Yoshiko.
10	①☐ Yoshiko woke Kuma up	②☐Kuma woke Yoshiko up

(2) If your teacher gave you the situation described in the sentences below, can you still respect your teacher?
Read each sentence and tick "Yes" or "No"

	Yes	No
1 せんせいに　ひるごはんを　たべられました。	☐	☐
2 せんせいに　コーヒーを　のまれました。	☐	☐
3 せんせいに　にっきを　みられました。	☐	☐
4 せんせいに　たいじゅうを　きかれました。	☐	☐
5 せんせいに　たたかれました。	☐	☐
6 せんせいに　コンピューターを　こわされました。	☐	☐
7 せんせいに　でんわを　つかわれました。	☐	☐
8 せんせいに　みつゆを　たのまれました。	☐	☐
9 せんせいに　キスされました。	☐	☐
10 せんせいに　クラブに　さそわれました。	☐	☐

みつゆ　　smuggling

Compare your result with a partner and decide which item would be the worst?

Instructor's script

1 よしこちゃんはくま君にほめられました。
2 よしこちゃんはくま君をさそいました。
3 くま君はよしこちゃんのミルクを飲みました。
4 くま君はよしこちゃんにたたかれました。
5 よしこちゃんはくま君に「こんにちは」と言われました。
6 くま君はよしこちゃんにしかられました。
7 くま君はよしこちゃんにキスしました。
8 くま君はよしこちゃんにでんわを使われました。
9 よしこちゃんはくま君に呼ばれました。
10 よしこちゃんはくま君に起こされました。

7 passive sentences
3 active sentences

Appendix E Table of the verbs

			masu form (past)	passive form (past)	Particles	Text book	Text book
R1	1	Begged	たのみました	たのまれました	に→に	JBPⅡ	MNⅡL37(passive)
	2	Called	よびました	よばれました	を→に	JBP I	MN I
	3	Said	いいました	いわれました	に→に	JBP I	MN I
	4	woke up	おこしました	おこされました	を→に		MNⅡL37(passive)
	5	Broke	こわしました	こわされました	の→に	JBⅢL8(passive)	MNⅡL37(passive)
	6	Asked	ききました	きかれました	に→に	JBP I	MN I
	7	Invited	さそいました	さそわれました	を→に	JBPⅢL18	MNⅡL37(passive)
	8	Scolded	しかりました	しかられました	を→に	JBⅢL8(passive)	MNⅡL37(passive)
	9	Used	つかいました	つかわれました	の→に	JBP I	MN I
	10	Drank	のみました	のまれました	の→に	JBP I	MN I
	11	Hit	たたきました	たたかれました	を→に	JBⅢL8(passive)	
R2	12	Ate	たべました	たべられました	の→に	JBP I	MN I
	13	Looked	みました	みられました	を→に	JBP I	MN I
	14	complimented	ほめました	ほめられました	を→に	JBⅢL8(passive)	MNⅡL37(passive)
IRR	15	Kissed	キスしました	キスされました	に→に	JBP I	MN I

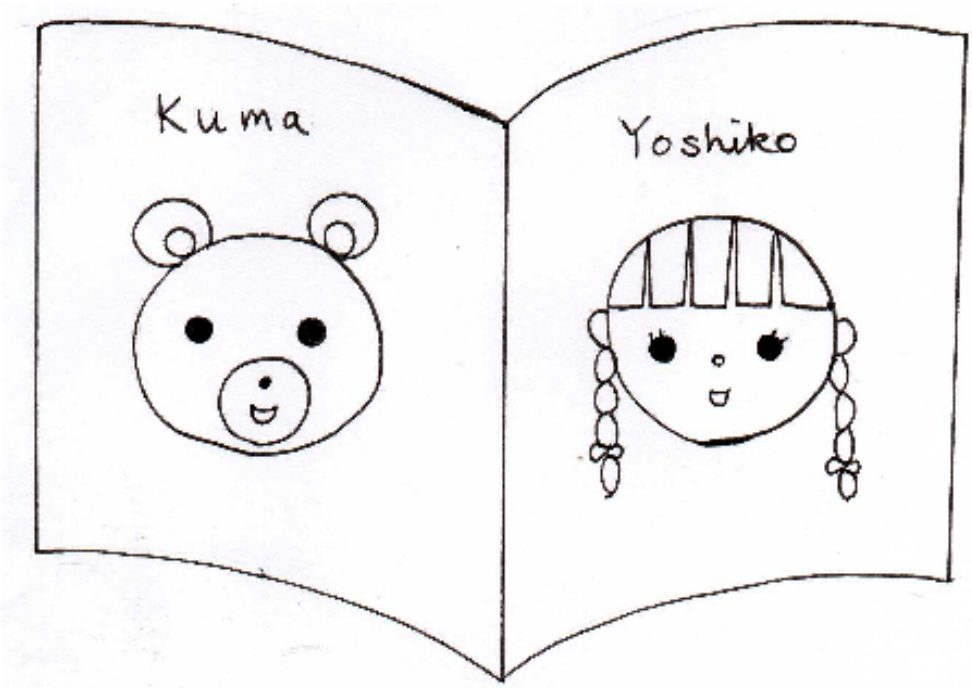
Decline ことわられました
Help　たすけられました
Result of the pilot test, these two words was eliminated then 15 words were selected.
JBP, Japanese for Busy People; MN, Minna no nihongo

Appendix F Pre-tests

F-1 Sentence level Interpretation pre-test

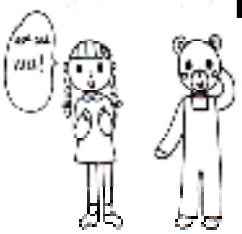
Interpretation sentence level

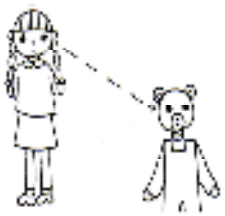
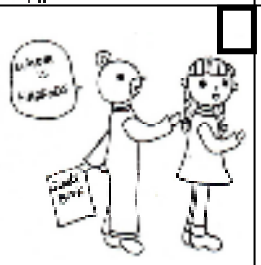
Kuma kun **Yoshiko chan**

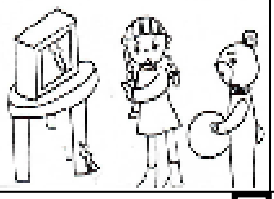
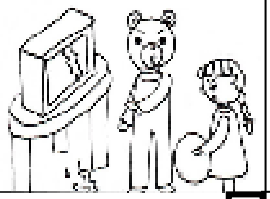


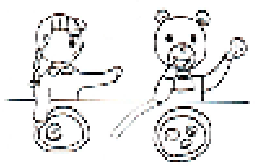
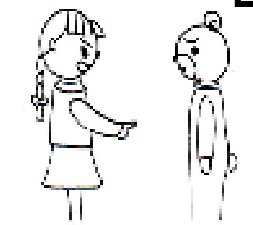
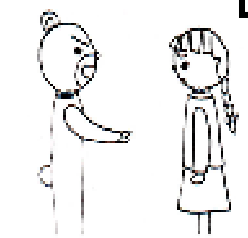
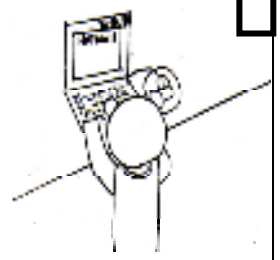
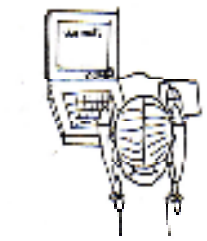
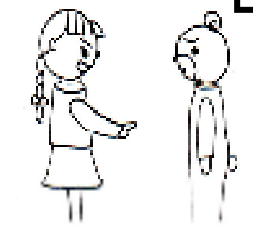
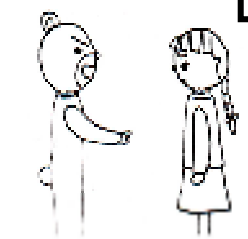
Listen to each sentence and then tick the picture that matches what you heard. However, if you were not sure what heard, tick “I am not sure”.

Name _____

1	 ☐	 ☐	**I am not sure** ☐
2	 ☐	 ☐	**I am not sure** ☐
3	 ☐	 ☐	**I am not sure** ☐
4	 ☐	 ☐	**I am not sure** ☐
5	 ☐	 ☐	**I am not sure** ☐

6			**I am not sure**
7			**I am not sure**
8			**I am not sure**
9			**I am not sure**
10			**I am not sure**

11			**I am not sure**
12			**I am not sure**
13			**I am not sure**
14			**I am not sure**
15			**I am not sure**

16	☐ 	☐ 	☐ **I am not sure**
17	☐ 	☐ 	☐ **I am not sure**
18	☐ 	☐ 	☐ **I am not sure**
19	☐ 	☐ 	☐ **I am not sure**
20	☐ 	☐ 	☐ **I am not sure**

Instructor's script

1 くま君は　よしこちゃんに　たのみました。

2 よしこちゃんは　くま君に　言われました。

3 よしこちゃんは　くま君を　おこしました。

4 くま君は　よしこちゃんを　ほめました。

5 よしこちゃんは　くま君に　たたかれました。

6 くま君は　よしこちゃんに　ほめられました。

7 よしこちゃんは　くま君に　見られました。

8 くま君は　よしこちゃんに　言いました。

9 くま君は　よしこちゃんを　よびました。

10 よしこちゃんは　くま君に　きかれました。

11 くま君は　よしこちゃんを　さそいました。

12 よしこちゃんは　くま君に　キスしました。

13 くま君は　よしこちゃんの　テレビを　こわしました。

14 くま君は　よしこちゃんに　よばれました。

15 よしこちゃんは　くま君に　キスされました。

16 よしこちゃんは　くま君の　ジュースを　飲みました。

17 くま君は　よしこちゃんに　ビスケットを　食べられました。

18 よしこちゃんは　くま君を　しかりました。

19 くま君は　よしこちゃんに　コンピューターを　使われました。

20 よしこちゃんは　くま君に　しかられました。

F-2. Sentence level Production pre-test

Production pre-test Name _____

Complete each sentence according the English translation version.

1 Yoshiko was hit by Kuma
よしこちゃんは　くまくんに_____。

2 Kuma drank Yoshiko's juice
くまくんは　よしこちゃんの　ジュースを_____。

3 Kuma said toYoshiko
くまくんは　よしこちゃんに_____。

4 Yoshiko's biscuit was eaten by Kuma
よしこちゃんは　くまくんに　ビスケットを_____。

5 Kuma scolded Yoshiko
くまくんは　よしこちゃんを_____。

6 Yoshiko woke Kuma up
よしこちゃんは　くまくんを_____。

7 Kuma was begged byYoshiko
くまくんは　よしこちゃんに_____。

8 Kuma was looked by Yoshiko
くまくんは　よしこちゃんに_____。

9Yoshiko asked Kuma
よしこちゃんは　くまくんに_____。

10 Yoshiko was kissed by Kuma
よしこちゃんは　くまくんに_____。

11 Kuma used Yoshiko's phone
くまくんは　よしこちゃんの　でんわを_____。

12Yoshiko was woken up by Kuma
よしこちゃんは　くまくんに_____。

13Kuma was called byYoshiko
くまくんは　よしこちゃんに_____。

14 Yoshiko kissed Kuma
よしこちゃんは　くまくんに_____。

15 Yoshiko complimented Kuma
よしこちゃんは　くまくんを_____。

16 Kuma's computer was broken by Yoshiko
　くまくんは　よしこちゃんに　コンピューターを_____。

17 Kuma invited Yoshiko
　くまくんは　よしこちゃんを_____。

18　"Hello" was said to Yoshiko by Kuma
　よしこちゃんは　くまくんに「こんにちは」と_____。

19 Kuma was complimented by Yoshiko
　くまくんは　よしこちゃんに_____。

20 Yoshiko called Kuma
　よしこちゃんは　くまくんを_____。

F-3. Discourse level interpretation test dialogue pre-test

Interpretation discourse level pre-test

Two people are talking about a book describing Yoshiko and Kuma.

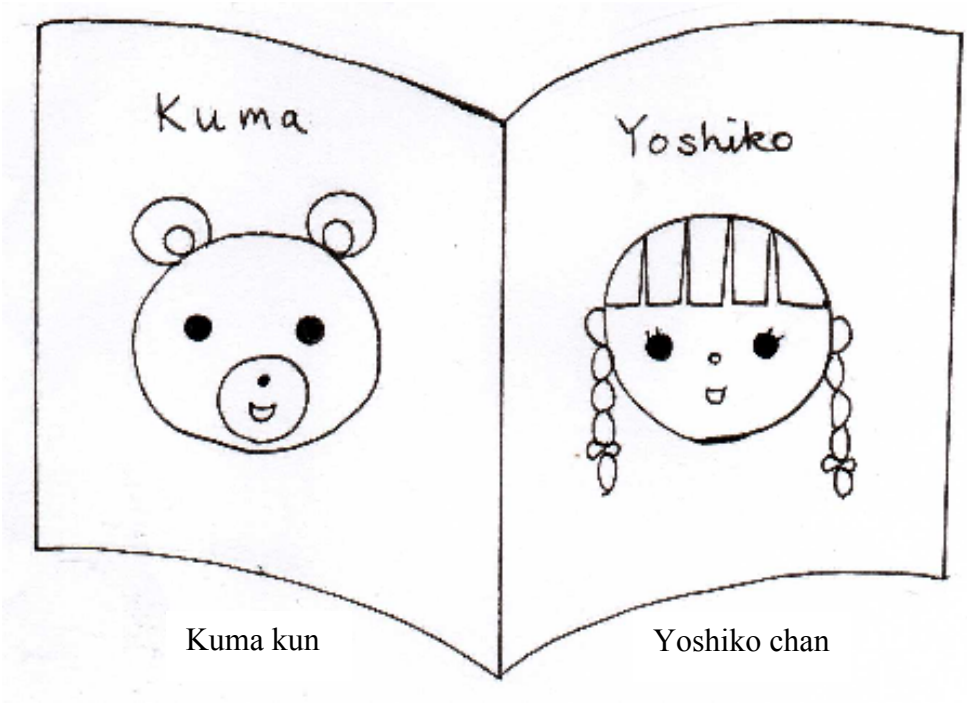
When listening to the dialogue, you must focus on who did each action.

Listen to the dialogue and remember who did what. After listening, open the answer sheet and then tick the picture that matches what you heard.

Attention

You can't open the answer sheet before listening to the dialogue.

You can't look at the answer sheet while you are listening to the dialogue.



Kuma kun Yoshiko chan

Name _____

Answer sheet 1: Who did each action? Tick the picture that matches what you heard.

1			I am not sure
2			I am not sure

Please do not turn the page until after you hear the next part of the dialogue.

Answer sheet 2: Who did each action? Tick the picture that matches what you heard.

3			I am not sure
4			I am not sure

Please do not turn the page until after you hear the next part of the dialogue.

Answer sheet 3: Who did each action? Tick the picture that matches what you heard.

5			I am not sure
6			I am not sure
7			I am not sure

Please do not turn the page until after you hear the next part of the dialogue.

Answer 4: Who did each action? Tick the picture that matches what you heard.

8			I am not sure
9			I am not sure
10			I am not sure

The end.

Instructor's script

Answer sheet 1

田中：よしこちゃんとくまくんの本を読みました。おもしろかったですよ。

鈴木: どんな話ですか。

田中：朝です。くまくんはよしこちゃんを起こしました。 **1**

「朝ごはんできたよ。」と くまくんはよしこちゃんに呼ばれました。①

鈴木:　いつも二人は一緒ですね。

Answer sheet 2

田中：朝ごはんの後、

よしこちゃんはくまくんに暇かどうか聞かれました。②

二人はケーキを焼くことにしました。

鈴木:　そしてどうなりましたか。

田中：くまくんはよしこちゃんにほめられました。③

鈴木:　なぜですか。

田中：上手にケーキを焼いたからです。

Answer sheet 3

田中：よしこちゃんはくまくんに一緒に食べようと言いました。 **2**

鈴木:　それで？

田中：よしこちゃんはくまくんのケーキを食べました。 **3**

そしてよしこちゃんはくまくんにミルクを飲まれました。④

Answer sheet 4

鈴木:　その後どうなりましたか。

田中：喧嘩になりました。

よしこちゃんはくまくんにコップをこわされました。⑤

そしてよしこちゃんはくまくんをたたきました。 **4**

でも最後になかよくなりました。

くまくんはよしこちゃんにキスしました。 **5**

鈴木：楽しい話ですね。

Translation

Answer sheet 1

Tanaka: I read a picture book written about Yoshiko and Kuma. It was interesting.

Suzuki: How about the story?

Tanaka: In the morning, Kuma woke Yoshiko up. …….active1

" Breakfast is ready!" Kuma was called by Yoshiko……passive1

Suzuki: They are always together aren't they?

Answer sheet 2

Tanaka: After breakfast,

Yoshiko was asked by Kuma whether Yoshiko was free or not. …….passive 2

They decided to bake a cake.

Suzuki: What happened then?

Tanaka: Kuma was complimented by Yoshiko …….. passive 3

Suzuki: Why?

Tanaka: The cake was good.

Answer sheet 3

Tanaka: Yoshiko said "let's have a cake" to Kuma…… active 2

Suzuki: Then?

Tanaka: Yoshiko ate Kuma's cake….. active 3

and Yoshiko's milk was drunk by Kuma…..passive 4

answer sheet 4

Suzuki: What happened later?

Tanaka: They began to fight.

Yoshiko's cup was broken by Kuma…… passive 5

then Yoshiko hit Kuma. ….. active 4

However, they finally made up.

Kuma kissed Yoshiko……..active 5

Suzuki: It is an interesting story isn't it?

5 passive sentences

5 active sentences as distracters

F-4. Discourse level interpretation test story version pre-test

Interpretation discourse level pre-test: Guided recall task 2

Listen to each passage and focus on who did each action.

Listen to the first paragraph and remember who did what. After listening, open the first answer sheet and then tick the picture that matches what you heard.

You can't open the second answer sheet before listening to the second paragraph.

Listen to the second, third, forth and fifth paragraphs one by one and carry out the tasks with the same procedure.

Attention: You can't look at the answer sheet while you are listening to the paragraph.

You can only listen to the passage once.

There are 5 sheets

A The first paragraph … … page 1

B The second paragraph ……. Page 2

C The third paragraph ……. Page 3

D The forth paragraph …….. page 4

E The fifth paragraph …… .. page 5

Watashi

Kuma kun

Yoshiko chan

Name _____

Answer sheet: Who did each action? Tick the picture that matches what you heard.

A

1			I am not sure
2			I am not sure
3			I am not sure

Please do not turn the page until after you hear the next part of the story.

Answer sheet: Who did each action? Tick the picture that matches what you heard.

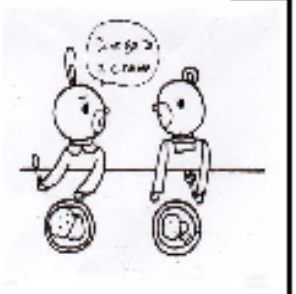
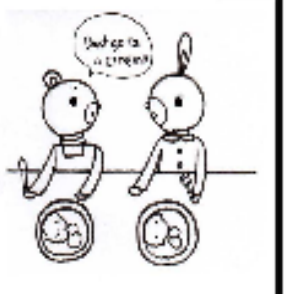
B

1			I am not sure
2			I am not sure
3			I am not sure

Please do not turn the page until after you hear the next part of the story.

Answer sheet: Who did each action? Tick the picture that matches what you heard.

C

1			I am not sure
2			I am not sure
3			I am not sure

Please do not turn the page until after you hear the next part of the story.

Answer sheet: Who did each action? Tick the picture that matches what you heard.

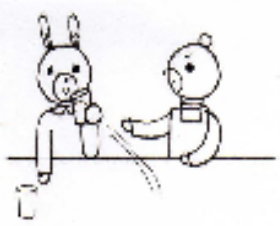
D

1			I am not sure
2			I am not sure
3			I am not sure

Please do not turn the page until after you hear the next part of the story.

Answer sheet: Who did each action? Tick the picture that matches what you heard.

E

1			I am not sure
2			I am not sure
3			I am not sure

The end.

Instructor's script

A

I'm a girl.

Yoshiko and Kuma are my friends at school. I'm going to tell you what happened yesterday at school.

When I arrived at school in the morning, I was called by Kuma (passive 1).

Kuma kissed me (active 1).

At that time, I was seen by Yoshiko (passive 2).

Then the event became a sensation.

B

In the lesson,

Kuma was woken up by Yoshiko (passive 3) and then Yoshiko's pen was used by Kuma (passive 4).

Then Yoshiko invited Kuma to go to a cinema (active 2).

C

At lunch time, I begged Kuma not to go to the cinema (active 3).

Yoshiko called me (active 4) then

"I hate you" I was said by Yoshiko. (passive 5)

D

At break,

Yoshiko's phone was broken by Kuma (passive 6)

Yoshiko said something to Kuma (active 5).

Then Yoshiko was kissed by Kuma (passive 7).

E

When we had left school, I was invited by Kuma to go to a coffee shop (passive 8)

In the coffee shop, my juice was drunk by Kuma (passive 9).

Then I was asked by Kuma "do you like me?" (passive10)

I like Kuma but I think Yoshiko likes Kuma too.

Which one do you think Kuma likes me or Yoshiko?

10 passive sentences

5 active sentences as the distracters

A

私は女の子です。

よしこちゃんとくまくんは私の学校の友だちです。これは昨日学校であったことです。

朝、学校で、私はくまくんに呼ばれました。Passive 1

くまくんは私にキスしました。Active 1

その時、私はよしこちゃんに見られました。Passive2

そしてそれは、クラスの中の sensation になりました。

B

授業中に、くまくんはよしこちゃんに起こされました。Passive 3

そしてよしこちゃんはくまくんにペンを使われました。Passive 4

その時、よしこちゃんはくまくんを映画にさそいました。Active２

C

ランチの時、私はくまくんに映画に行かないようにたのみました。Active３

よしこちゃんは私を呼びました。Active４

「あなたが嫌い」私はよしこちゃんにいわれました。Passive 5

D

休み時間に、よしこちゃんはくまくんに電話をこわされました。Passive 6

よしこちゃんはくまくんに何か言いました。Active５

そしたら、よしこちゃんはくまくんにキスされました。Passive 7

E

学校の帰りに、私はくまくんに Coffee shop にさそわれました。Passive 8

Coffee shop で私はくまくんにジュースを飲まれました。Passive 9

その時、「好き？」私はくまくんに聞かれました。Passive 10

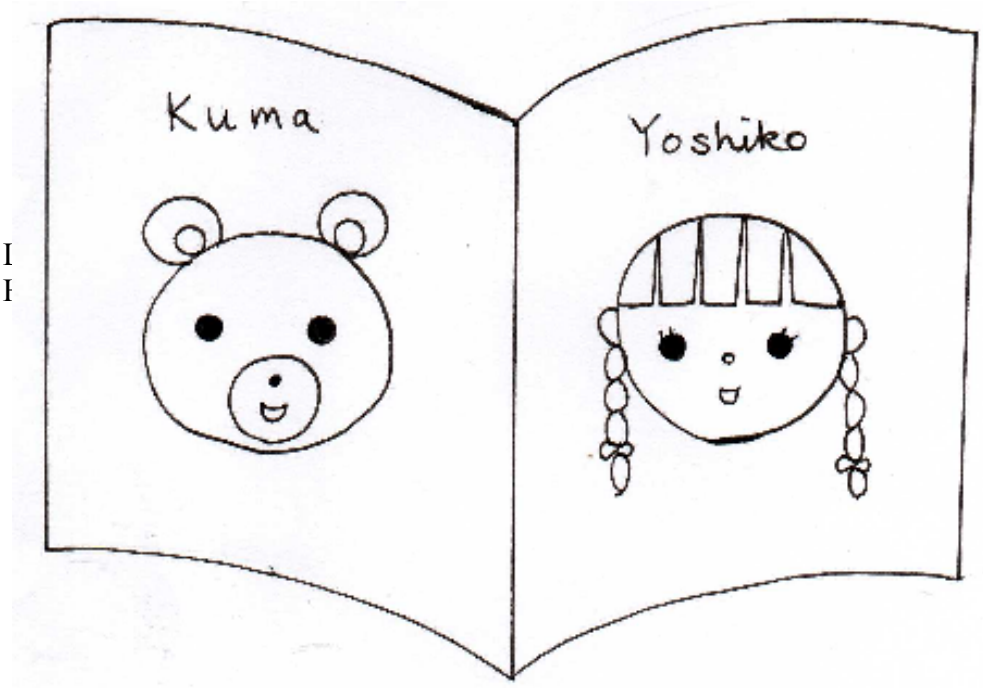
くまくんは私とよしこちゃんと、どちらが好きだと思いますか。

Appendix G Immediate post-tests

G-1. Sentence level Interpretation post-test

Interpretation sentence level

Kuma kun **Yoshiko chan**



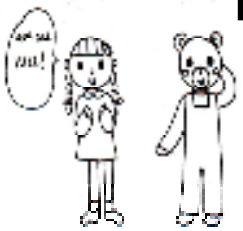
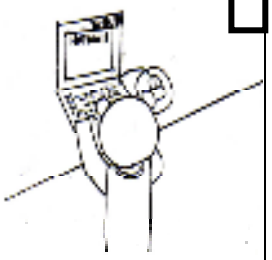
I
I

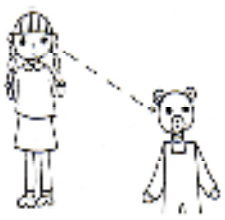
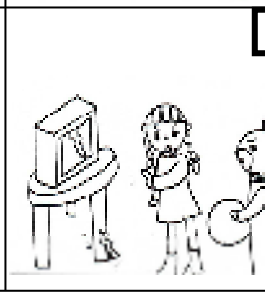
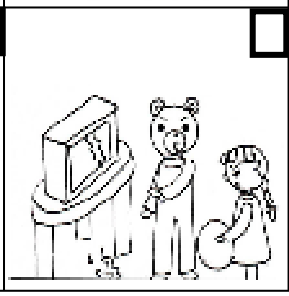
Listen to each sentence and then tick the picture that matches what you heard. However, if you were not sure what heard, tick “I am not sure”.

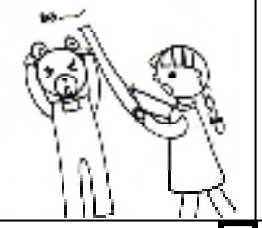
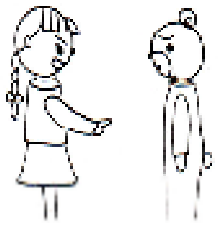
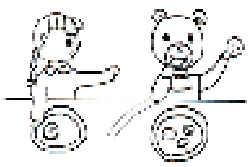
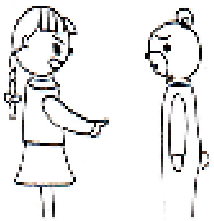
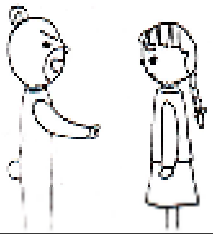
Error! Objects cannot be created from editing field codes.

Name _____

1			**I am not sure**
2			**I am not sure**
3			**I am not sure**
4			**I am not sure**
5			**I am not sure**

6			**I am not sure**
7			**I am not sure**
8			**I am not sure**
9			**I am not sure**
10			**I am not sure**

11			**I am not sure**
12			**I am not sure**
13			**I am not sure**
14			**I am not sure**
15			**I am not sure**

16			**I am not sure**
17			**I am not sure**
18			**I am not sure**
19			**I am not sure**
20			**I am not sure**

Interpretation Post-test

Instructor's script

1 くま君は　よしこちゃんに　言われました。
2 よしこちゃんは　くま君の　ジュースを　飲みました。
3 くま君は　よしこちゃんに　キスされました。
4 くま君は　よしこちゃんを　よびました。
5 よしこちゃんは　くま君に　たのみました。
6 よしこちゃんは　くま君に　ほめられました。
7 くま君は　よしこちゃんを　起こしました。
8 よしこちゃんは　くま君を　ほめました。
9 くま君は　よしこちゃんに　コンピュータを　使われました。
10 よしこちゃんは　くま君に　呼ばれました。
11 くま君は　よしこちゃんに　見られました。
12 よしこちゃんは　くま君に　言いました。
13 よしこちゃんは　くま君を　さそいました。
14 くま君は　よしこちゃんに　きかれました。
15 よしこちゃんは　くま君の　テレビを　こわしました。
16 よしこちゃんは　くま君に　たたかれました。
17 くま君は　よしこちゃんに　しかられました。
18 くま君は　よしこちゃんに　キスしました。
19 よしこちゃんは　くま君にビスケットを　食べられました。
20 よしこちゃんは　くま君を　しかりました。

G-2. Sentence level Production post-test

Production post-test Name _____

Complete each sentence according the English translation version.

1 “Hello” was said to Kuma by Yoshiko
　くまくんは　よしこちゃんに「こんにちは」と_____。

2 Yoshiko was woken up by Kuma
　よしこちゃんは　くまくんに_____。

3 Yoshiko complimented Kuma
　よしこちゃんは　くまくんを_____。

4 Yoshiko’s phone was broken by Kuma
　よしこちゃんは　くまくんに　でんわを_____。

5 Kuma woke Yoshiko up
　くまくんは　よしこちゃんを_____。

6 Kuma invited Yoshiko
　くまくんは　よしこちゃんを_____。

7 Yoshiko was complimented Kuma
　よしこちゃんは　くまくんに_____。

8 Kuma kissedYoshiko
　くまくんは　よしこちゃんに_____。

9 Yoshiko called Kuma
　よしこちゃんは　くまくんを_____。

10 Yoshiko used Kuma’s computer
　よしこちゃんは　くまくんの　コンピューターを_____。

11Kuma was begged byYoshiko
　くまくんは　よしこちゃんに_____。

12 Yoshiko was called by Kuma
　よしこちゃんは　くまくんに_____。

13 Kuma’s biscuit was eaten by Yoshiko
　くまくんは　よしこちゃんに　ビスケットを_____。

14 Kuma was kissed byYoshiko
　くまくんは　よしこちゃんに_____。

15 Kuma was hit by Yoshiko
　くまくんは　よしこちゃんに_____。

16 Yoshiko said to Kuma
よしこちゃんは　くまくんに＿＿＿＿＿＿＿＿＿＿＿＿。

17 Yoshiko drank Kuma’s juice
よしこちゃんは　くまくんの　ジュースを＿＿＿＿＿＿＿＿＿＿＿＿。

18 Kuma scoleded Yoshiko
くまくんは　よしこちゃんを＿＿＿＿＿＿＿＿＿＿＿＿。

19 Kuma askedYoshiko
くまくんは　よしこちゃんに＿＿＿＿＿＿＿＿＿＿＿＿。

20 Yoshiko was looked by Kuma
よしこちゃんは　くまくんに＿＿＿＿＿＿＿＿＿＿＿＿。

G-3. Discourse level Interpretation test dialogue post-test

Interpretation discourse level post-test

People are talking about a book describing Yoshiko and Kuma.

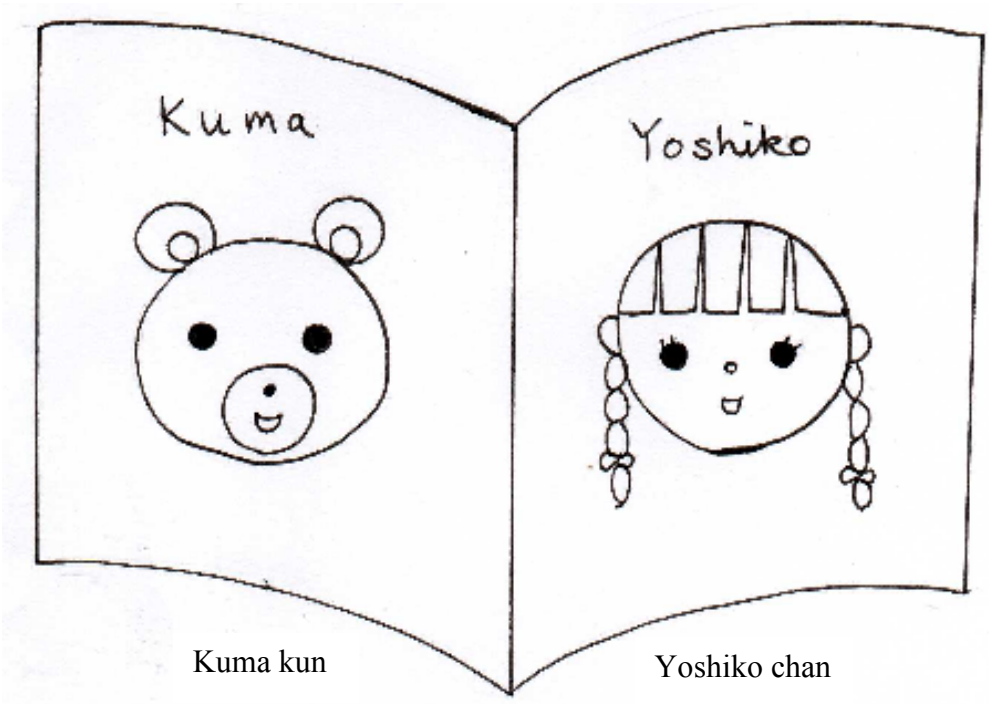
When listening to the dialogue, you must focus on who did each action.

Listen to the dialogue and remember who did what. After listening, open the answer sheet and then tick the picture that matches what you heard.

Attention

You can't open the answer sheet before listening to the dialogue.

You can't look at the answer sheet while you are listening to the dialogue.



Kuma kun

Yoshiko chan

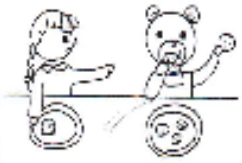
Name _____

Answer sheet 1: Who did each action? Tick the picture that matches what you heard.

1			I am not sure
2			I am not sure

Please do not turn the page until after you hear the next part of the dialogue.

Answer sheet 2: Who did each action? Tick the picture that matches what you heard.

3			I am not sure
4			I am not sure

Please do not turn the page until after you hear the next part of the dialogue.

Answer sheet 3: Who did each action? Tick the picture that matches what you heard.

5			I am not sure
6			I am not sure
7			I am not sure

Please do not turn the page until after you hear the next part of the dialogue.

Answer sheet 4: Who did each action? Tick the picture that matches what you heard

8			I am not sure
9			I am not sure
10			I am not sure

The end.

Instructor's script

Answer sheet 1

田中：よしこちゃんとくまくんの本を読みました。おもしろかったですよ。

鈴木: どんな話ですか。

田中：お昼です。

「昼ごはん食べよう」とくまくんはよしこちゃんを呼びました。 **1**

よしこちゃんはくまくんのジュースを飲みました。 **2**

鈴木:　いつも二人は一緒ですね。

Answer sheet 2

田中：昼ごはんの後、くまくんはよしこちゃんにほめられました。①

鈴木:　なぜですか。

田中：ビスケットを焼いたからです。

鈴木：そしてどうなりましたか。

田中：二人はビスケットを食べることにしました。

くまくんはよしこちゃんにビスケットを食べられました。②

Answer sheet 3

鈴木:　その後どうなりましたか。

田中：喧嘩になりました。

くまくんはよしこちゃんのコップをこわしました。 **3**

そしてくまくんはよしこちゃんにたたかれました。③

でも最後に仲良くなりました。

くまくんはよしこちゃんに好きかどうか聞かれました。④

Answer sheet 4

田中：よしこちゃんはくまくんにキスしました。 **4**

次の朝、よしこちゃんはくまくんに起こされました。⑤

鈴木:　それで？

田中：くまくんはよしこちゃんに好きと言いました。 **5**

鈴木：楽しい話ですね。

Translation

Answer sheet 1

Tanaka: I read a picture book written about Yoshiko and Kuma. It was interesting.

Suzuki: How about the story?

Tanaka: In the afternoon, "Lets' have a lunch"Kuma called Yoshiko…… active 1

Yoshiko drank Kuma's juice …….. active 2

Suzuki: They are always together aren't they?

Answer sheet 2

Tanaka: At lunch time, Kuma was complimented by Yoshiko…… passive 1

Suzuki: Why?

Tanaka: For baking some biscuits.

Suzuki: What happened then?

Tanaka: They decided to have a lunch.

Kuma's biscuit was eaten by Yoshiko….. passive 2

Answer sheet 3

Suzuki: What happened later?

Tanaka: They began to fight.

Kuma broke Yoshiko's cup……..active3

and Kuma was hit by Yoshiko….passive 3

However, they finally made up.

Kuma was asked of Yoshiko whether Kuma likes Yoshiko or not…..passive 4

Answer sheet 4

Tanaka: Yoshiko kissed Kuma…..active 4

Next morning, Yoshiko was woken up by Kuma……passive 5

Suzuki: Then?

Tanaka: Kuma said "I like you" to Yoshiko……active 5

Suzuki: It was interesting story wasn't it?

5 passive sentences

5 active sentences as distracters

G-4. Discourse level Interpretation test story version post-test

Interpretation discourse level post-test : Guided recall task story

Listen to each passage and focus on who did each action.

Listen to the first paragraph and remember who did what. After listening, open the first answer sheet and then tick the picture that matches what you heard.

You can't open the second answer sheet before listening to the second paragraph.

Listen to the second, third, forth and fifth paragraphs one by one and carry out the tasks with the same procedure.

Attention: You can't look at the answer sheet while you are listening to the paragraph.

You can only listen to the passage once.

There are 5 sheets

A The first paragraph … … page 1

B The second paragraph ……. Page 2

C The third paragraph ……. Page 3

D The forth paragraph …….. page 4

E The fifth paragraph …… .. page 5

Watashi

Kuma kun

Yoshiko chan

Name _____

Answer sheet: Who did each action? Tick the picture that matches what you heard.

A

1			I am not sure
2			I am not sure
3			I am not sure

Please do not turn the page until after you hear the next part of the story.

Answer sheet: Who did each action? Tick the picture that matches what you heard.

B

1			I am not sure
2			I am not sure
3			I am not sure

Please do not turn the page until after you hear the next part of the story.

Answer sheet: Who did each action? Tick the picture that matches what you heard.

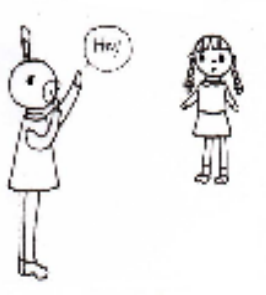
C

1			I am not sure
2			I am not sure
3			I am not sure

Please do not turn the page until after you hear the next part of the story.

Answer sheet: Who did each action? Tick the picture that matches what you heard.

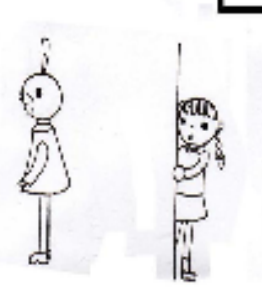
D

1			I am not sure
2			I am not sure
3			I am not sure

Please do not turn the page until after you hear the next part of the story.

Answer sheet: Who did each action? Tick the picture that matches what you heard.

E

1			I am not sure
2			I am not sure
3			I am not sure

The end.

A

私は女の子です。

よしこちゃんとくまくんは私の学校の友だちです。これは私、よしこちゃん、くまくんの話です。

昨日の夜、私はくまくんにレストランにさそわれました。Passive 1

レストランで、「好き？」くまくんは私に聞きました。Active 1

その時、私はくまくんにキスされました。Passive 2

それは私の Secret です。

B

次の日の朝、くまくんはよしこちゃんに呼ばれました。Passive 3

「あなたが好き」よしこちゃんはくまくんに言いました Active 2

そしてくまくんはよしこちゃんにキスしました。Active 3

C

授業中に、くまくんはよしこちゃんにペンを使われました。Passive 4

私はよしこちゃんに起こされました　Passive 5

そして私はよしこちゃんに電話をこわされました。Passive 6

D

ランチの時、よしこちゃんは私を呼びました。Active 4

私はよしこちゃんにジュースを飲まれました。Passive 7

その時、私はよしこちゃんに「嫌い」と言われました。Passive 8

E

学校の帰りに、私はくまくんを映画にさそいました。Active 5

その時、私はよしこちゃんに見られました。Passive 9

その後、くまくんはよしこちゃんに買い物をたのまれました。Passive10

くまくんは私と映画に行くと思いますか、それとも買い物にいくと思いますか。

A

I'm a girl.

Yoshiko and Kuma are my school friends. This is a story about me,Yoshiko and Kuma ..

Last night, I was invited by Kuma to go to a restaurant…….passive 1

In the restaurant, "do you like me?" Kuma asked me……..active 1

At the time, I was kissed by Kuma…….passive 2

It is my secret.

B

Next morning, Kuma was called by Yoshiko…….passive 3

"I like you" Yoshiko said to Kuma……..active 2

and Kuma kissed Yoshiko……..active 3

C

In the lesson, the Kuma's pen was used by Yoshiko…….passive 4

I was woken up by Yoshiko…….passive 5

and my phone was broken by Yoshiko…….passive 6

D

At lunch time, Yoshiko called me…….active 4

My juice was drunk by Yoshiko……passive 7

At the time, I was told "hate you" by Yoshiko…….passive 8

E

When we had left school, I invited Kuma to go to a cinema……active 5

At the time, I was seen by Yoshiko……..passive 9

Later on, Kuma was begged by Yoshiko to go shopping……passive 10

Do you think Kuma will go to the cinema with me or go shopping for Yoshiko?

10 passive sentences

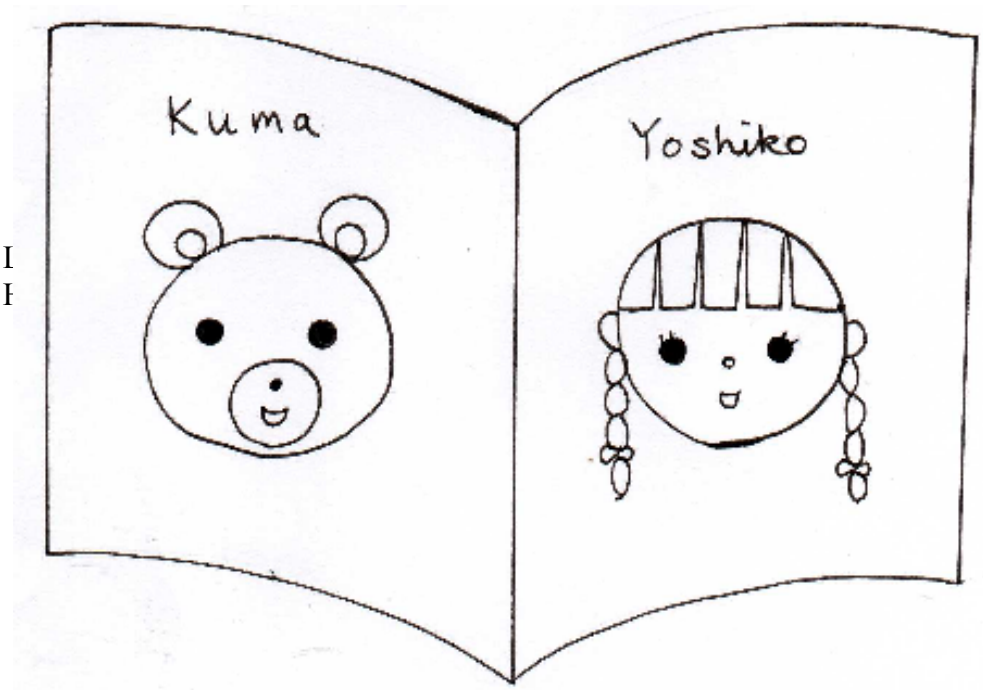
5 active sentences as the distracters

Appendix H Delayed post-tests

H-1. Sentence level Interpretation delayed post-test

Interpretation sentence level delayed post-test

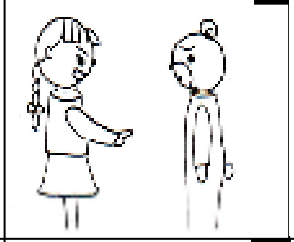
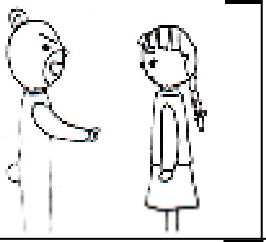
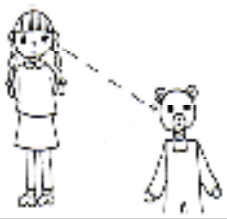
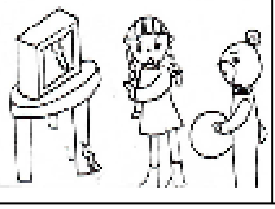
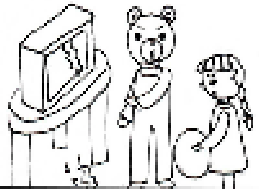
Kuma kun **Yoshiko chan**

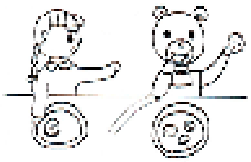
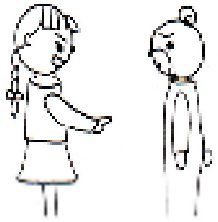


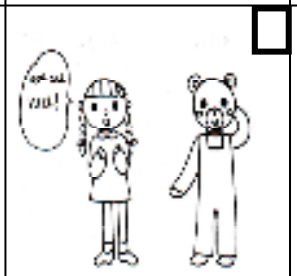
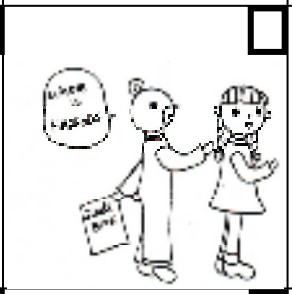
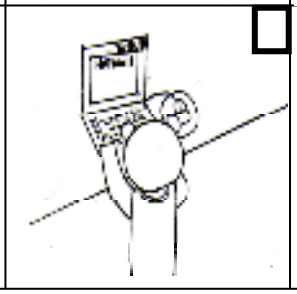
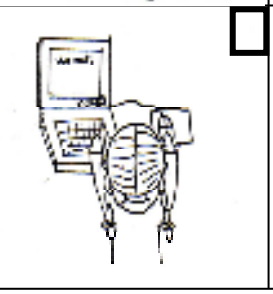
I
I

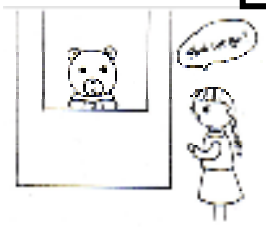
Listen to each sentence and then tick the picture that matches what you heard. However, if you were not sure what heard, tick “I am not sure”.

Name _____

1			**I am not sure**
2			**I am not sure**
3			**I am not sure**
4			**I am not sure**
5			**I am not sure**

6	☐ 	☐ 	☐ **I am not sure**
7	☐ 	☐ 	☐ **I am not sure**
8	☐ 	☐ 	☐ **I am not sure**
9	☐ 	☐ 	☐ **I am not sure**
10	☐ 	☐ 	☐ **I am not sure**

11			**I am not sure**
12			**I am not sure**
13			**I am not sure**
14			**I am not sure**
15			**I am not sure**

16			**I am not sure**
17			**I am not sure**
18			**I am not sure**
19			**I am not sure**
20			**I am not sure**

Interpretation delayed Post-test (sentence level)

Instructor's script

1 くま君はよしこちゃんを　しかりました。
2 くま君はよしこちゃんに　見られました。
3 よしこちゃんはくま君を　ほめました。
4 くま君はよしこちゃんに　キスされました。
5 よしこちゃんはくま君の　テレビを　こわしました。
6 よしこちゃんはくま君に　言われました。
7 くま君はよしこちゃんに　キスしました。
8 よしこちゃんはくま君に　ビスケットを　食べられました。
9 くま君はよしこちゃんに　しかられました。
10 よしこちゃんはくま君に　言いました。
11 よしこちゃんはくま君に　聞かれました。
12 よしこちゃんはくま君に　たのみました。
13 くま君はよしこちゃんに　ほめられました。
14 よしこちゃんはくま君を　呼びました。
15 よしこちゃんはくま君に　コンピューターを　使われました。
16 くま君はよしこちゃんに　たたかれました。
17 くま君はよしこちゃんを　起こしました。
18 よしこちゃんはくま君の　ジュースを　飲みました。
19 くま君はよしこちゃんに　呼ばれました。
20 くま君はよしこちゃんを　さそいました。

H-2. Sentence level Production delayed post-test

Production delayed post-test name_____

Complete each sentence according the English translation version.

1 “Hello” was said to Kuma by Yoshiko.
くまくんは　よしこちゃんに「こんにちは」と_____。

2 Yoshiko was hit by Kuma.
よしこちゃんは　くまくんに_____。

3 Kuma woke Yoshiko up.
くまくんは　よしこちゃんを_____。

4 Yoshiko was begged by Kuma.
よしこちゃんは　くまくんに_____。

5 Yoshiko drank Kuma’s juice.
よしこちゃんは　くまくんの　ジュースを_____。

6 Kuma was kissed by Yoshiko.
くまくんは　よしこちゃんに_____。

7 Kuma was woken up by Yoshiko.
くまくんは　よしこちゃんに_____。

8 Yoshiko asked Kuma.
よしこちゃんは　くまくんに_____。

9 Kuma was looked by Yoshiko.
くまくんは　よしこちゃんに_____。

10 Yoshiko used Kuma’s phone.
よしこちゃんは　くまくんの　でんわを_____。

11 Yoshiko was called by Kuma.
よしこちゃんは　くまくんに_____。

12 Kuma scolded Yoshiko.
くまくんは　よしこちゃんを_____。

13 Yoshiko’s biscuit was eaten by Kuma.
よしこちゃんは　くまくんに　ビスケットを_____。

14 Kuma complimented Yoshiko.
くまくんは　よしこちゃんを_____。

15 Yoshiko said Kuma.
よしこちゃんは　くまくんに_____。

16 Kuma’s computer was broken by Yoshiko.
くまくんは　よしこちゃんに　コンピューターを_____。

17 Yoshiko invited Kuma.
よしこちゃんは　くまくんを_____。

18 Kuma was complimented by Yoshiko.
くまくんは　よしこちゃんに_____。

19 Kuma kissed Yoshiko.
くまくんは　よしこちゃんに_____。

20 Yoshiko called Kuma.
よしこちゃんは　くまくんを_____。

H-3. Discourse level Interpretation test dialogue delayed post-test

Interpretation discourse level delayed post-test

People are talking about a book describing Yoshiko and Kuma.

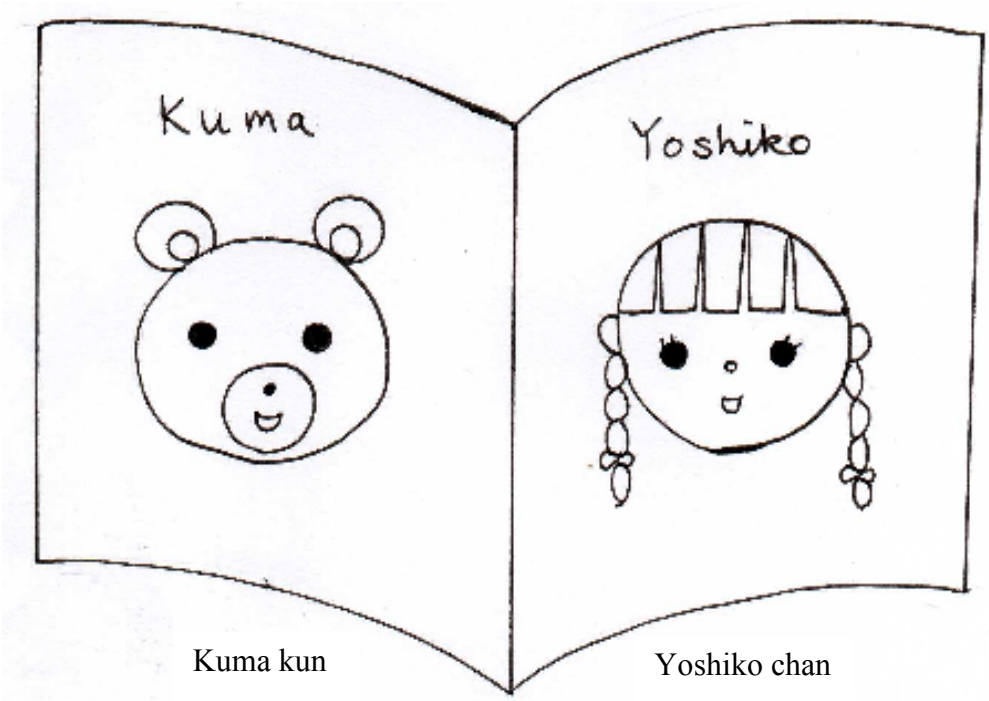
When listening to the dialogue, you must focus on who did each action.

Listen to the dialogue and remember who did what. After listening, open the answer sheet and then tick the picture that matches what you heard.

Attention

You can't open the answer sheet before listening to the dialogue.

You can't look at the answer sheet while you are listening to the dialogue.



Kuma kun Yoshiko chan

Name _____

Answer sheet 1: Who did each action? Tick the picture that matches what you heard.

1			I am not sure
2			I am not sure

Please do not turn the page until after you hear the next part of the dialogue.

Answer sheet 2: Who did each action? Tick the picture that matches what you heard.

3			I am not sure
4			I am not sure

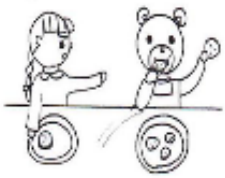
Please do not turn the page until after you hear the next part of the dialogue.

Answer 3: Who did each action? Tick the picture that matches what you heard.

5			I am not sure
6			I am not sure
7			I am not sure

Please do not turn the page until after you hear the next part of the dialogue.

Answer 4: Who did each action? Tick the picture that matches what you heard.

8			I am not sure
9			I am not sure
10			I am not sure

The end.

Second post-test Instructor's script

Answer sheet 1

田中：よしこちゃんとくまくんの本を読みました。おもしろかったですよ。

鈴木: どんな話ですか。

田中：夜です。くまくんはよしこちゃんに呼ばれました。①

よしこちゃんはくま君に「スープを作ろう」と言われました。②

鈴木:　いつも二人は一緒ですね。

Answer sheet 2

田中：晩ご飯のとき、くま君はよしこちゃんをほめました。 **1**

鈴木:　なぜですか。

田中：スープをおいしく作ったからです。

鈴木:　そしてどうなりましたか。

田中：食事を始めました。

くま君はよしこちゃんのスープを飲みました。 **2**

Answer sheet 3

田中：次の朝、よしこちゃんはくま君に起こされました。③

くま君はよしこちゃんの時計をこわしました。 **3**

鈴木:　それで？

田中：くま君はよしこちゃんにたたかれました。④

Answer sheet 4

鈴木:　その後どうなりましたか。

田中：仲良く遊びました。

よしこちゃんはくま君にお腹がすいているか聞かれました。⑤

そしてよしこちゃんはくま君のビスケットを食べました。 **4**

でも二人は仲良しです。

くまくんはよしこちゃんにキスしました。５

鈴木：楽しい話ですね。

Translation

Answer sheet 1

Tanaka: I read a picture book written about Yoshiko and Kuma. It was interesting.

Suzuki: How about the story?

Tanaka: In the evening, Kuma was called by Yoshiko. …….passive1

Yoshiko was said "let's make soup" by Kuma……passive 2

Suzuki: They are always together aren't they?

Answer sheet 2

Tanaka: At dinner time, Kuma complimented Yoshiko. …….active 1

Suzuki: Why?

Tanaka: The soup was good.

Suzuki: What happened then?

Tanaka: They started to eat.

Kuma drank Yoshiko's soup…….active 2

Answer sheet 3

Tanaka: Next morning, Yoshiko was woken up by Kuma…….passive 3

Kuma broke Yoshiko's clock……active 3

Suzuki: Then?

Tanaka: Kuma was hit by Yoshiko.....passive 4

answer sheet 4

Suzuki: What happened later?

Tanaka: They played together.

Yoshiko was asked by Kuma whether Yoshiko was hungry or not……passive 5

and Yoshiko ate Kuma's biscuit……active 4

However, Yoshiko and Kuma are good friends.

Kuma kissed Yoshiko……..active 5

Suzuki: It is an interesting story isn't it?

5 passive sentences

5 active sentences as distracters

H-4. Discourse level Interpretation test story version delayed post-test

Interpretation discourse level delayed post-test : Guided recall task story

Listen to each passage and focus on who did each action.

Listen to the first paragraph and remember who did what. After listening, open the first answer sheet and then tick the picture that matches what you heard.

You can't open the second answer sheet before listening to the second paragraph.

Listen to the second, third, forth and fifth paragraphs one by one and carry out the tasks with the same procedure.

Attention: You can't look at the answer sheet while you are listening to the paragraph.

You can only listen to the passage once.

There are 5 sheets

A The first paragraph … … page 1

B The second paragraph ……. Page 2

C The third paragraph ……. Page 3

D The forth paragraph …….. page 4

E The fifth paragraph …… .. page 5

Watashi

Kuma kun

Yoshiko chan

Name _____

Answer sheet: Who did each action? Tick the picture that matches what you heard.

A

1			I am not sure
2			I am not sure
3			I am not sure

Please do not turn the page until after you hear the next part of the story.

Answer sheet: Who did each action? Tick the picture that matches what you heard.

B

1			I am not sure
2			I am not sure
3			I am not sure

Please do not turn the page until after you hear the next part of the story.

Answer sheet: Who did each action? Tick the picture that matches what you heard.

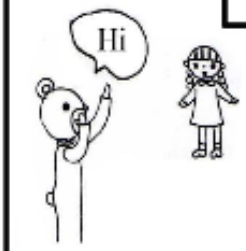
C

1			I am not sure
2			I am not sure
3			I am not sure

Please do not turn the page until after you hear the next part of the story.

Answer sheet: Who did each action? Tick the picture that matches what you heard.

D

1			I am not sure
2			I am not sure
3			I am not sure

Please do not turn the page until after you hear the next part of the story.

Answer sheet: Who did each action? Tick the picture that matches what you heard.

E

1			I am not sure
2			I am not sure
3			I am not sure

The end.

A

私は女の子です。

よしこちゃんとくまくんは私の学校の友だちです。これは私、よしこちゃん、くまくんの話です。

朝、くまくんはよしこちゃんに起こされました。Passive 1

よしこちゃんはくまくんのシャンプーを使いました。Active 1

その後　くまくんはよしこちゃんにミルクを飲まれました。Passive 2

そして喧嘩になりました。

B

学校で、よしこちゃんはくまくんにペンを使われました。Passive 3

そしてくまくんはよしこちゃんのノートを見ました。Active 2

その時、　くまくんはよしこちゃんにキスされました。Passive 4

C

休み時間に、私はよしこちゃんに電話をこわされました。Passive 5

「今日ひま？」くまくんはよしこちゃんに聞かれました。Passive 6

そして「今日ひま？」よしこちゃんは私に聞きました。Active 3

D

ランチの時、よしこちゃんはくまくんに呼ばれました。Passive 7

私はよしこちゃんのジュースを飲みました。Active 4

後で、くまくんはよしこちゃんに買い物をたのまれました。Passive 8

E

学校の帰りに、私はよしこちゃんに「ごめんね」と言われました。Passive 9

そして私はよしこちゃんに映画にさそわれました。Passive 10

その時、よしこちゃんは私にキスしました。Active 5

くまくん、よしこちゃん、私の中でだれが一番 naughty だと思いますか。

A

I'm a girl.

Yoshiko and Kuma are my school friends. This is a story about me ,Yoshiko and Kuma ..

In the morning, Kuma was woken up by Yoshiko…….passive 1

Yoshiko used Kuma's shampoo……..active 1

Later on, Kuma's milk was drunk by Yoshiko…….passive 2

Then, they began to fight.

B

In the school, The Yoshiko's pen was used by Kuma…….passive 3

and Kuma looked at the Yoshiko's note book……..active 2

At the time, Kuma was kissed by Yoshiko……..passive 4

C

At brake, my phone was broken by Yoshiko…….passive 5

"Are you free/"Kuma was asked by Yoshiko…….passive 6

and "are you free?" Yoshiko asked me…….active 3

D

At lunch time, Yoshiko was called by Kuma…….passive 7

I drank Yoshiko's juice…….active 4

Later on, Kuma was begged by Yoshiko to go shopping…….passive 8

E

When we had left school, I was said "sorry" by Yoshiko……passive 9

and I was invited by Kuma to go to a cinema ……..passive 10

At the time, Yoshiko kissed me……active 5

What do you think who is the most naughty child in three of them?

10 passive sentences

5 active sentences as the distracters