COMPARING THE EFFECTS OF PROCESSING INSTRUCTION AND PRODUCTION-BASED INSTRUCTION ON THE REGULAR VERB FORM OF ENGLISH SIMPLE PAST TENSE: THE ROLE OF EXPLICIT INFORMATION

ADEM SORUÇ

YEDİTEPE UNIVERSITY

2015

COMPARING THE EFFECTS OF PROCESSING INSTRUCTION AND PRODUCTION-BASED INSTRUCTION ON THE REGULAR VERB FORM OF ENGLISH SIMPLE PAST TENSE: THE ROLE OF EXPLICIT INFORMATION

ADEM SORUÇ

SUBMITTED TO THE INSTITUTE OF EDUCATIONAL SCIENCES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

YEDITEPE UNIVERSITY

2015

YEDİTEPE ÜNİVERSİTESİ
EĞİTİM BİLİMLERİ ENSTİTÜSÜ MÜDÜRLÜĞÜ

TEZ TESLİM ve ONAY TUTANAĞI

KONU: Comparing the Effects of Processing Instruction and Production-Based Instruction on the Regular Verb Form of English Simple Past Tense: The Role of Explicit Information

ONAY:

Jingjing Qin	(Danışman)		(İmza)
Ayşe S. Akyıl	(Üye)		(İmza)
Zeynep Koşoğlu	(Üye)		(İmza)
Youjin Kim	(Üye)		(İmza)
Erkan Karabacak	(Üye)		(İmza)

TESLİM EDEN : Adem SORUÇ
TEZ SAVUNMA TARİHİ : 29.12.2014
TEZ ONAY TARİHİ : 19.01.2015

VITA (CURRICULUM VITAE)

ADEM SORUÇ

Derece	Alan	Üniversite	Yıl
Lisans	ELT Department	Selçuk University	2006
Y. Lisans	ELT Department	Yeditepe University	2010
Doktora	ELT Department	Yeditepe University	2015

Uluslararası hakemli dergilerde yayınlanan makaleler (SCI & SSCI & Arts and Humanities)

Soruç, A., & Çepik, Ş. (2013). A critical analysis of foreign language pre-service teacher education in Turkey. *Anthropologist, 16* (1-2), 319-324.

Uluslararası diğer hakemli dergilerde yayınlanan makaleler

Inceçay, G. & Soruç, A. (2013). The role of oral language proficiency in Phonological awareness of early bilinguals. *Novitas-ROYAL* (Research on Youth and Language), 7 (2), 106-116.

Uluslararası bilimsel toplantılarda sunulan ve bildiri kitabında (*Proceedings*) basılan bildiriler

"How much does Spoken Grammar find its way through ELT textbooks in Turkey?", English as an International Language, Izmir – TURKEY

"Teachers and Students' Perceptions on Portfolio Assessment: A Cops & Robbers Chase", Best Practice in TEFL: Tenth EgypTesol Annual International Convention. Cairo – EGYPT.

"Does Language Proficiency Matter In Redundancy Principle?" 11th International Educational Technology Conference (IETC), Istanbul University, TURKEY, May, 25-27.

Ulusal hakemli dergilerde yayınlanan makaleler

Soruç, A. (2012). The role of needs analysis in language program renewal process. *Mevlana International Journal of Education (MIJE)*, 2 (1), 36-47.

Karaata, C. & Soruç, A. (2012). The missing gap between spoken grammar and english textbooks in Turkey. *Journal of Social Sciences*, Dumlupınar University, 32, (2), 9-18.

Karaata, C. & Soruç, A. (2011). How much does spoken grammar find its way into Turkish teachers of English?, *EKEV Academy*, 15, (49), 203-216.

Soruç, A. (2011). Teachers and Students' Perceptions regarding Portfolio Assessment in an EFL context: A Cops and Robbers Chase, *Journal of Social Sciences*, Selçuk University, 25, (1), 227-236.

ACKNOWLEDGEMENTS

First and foremost, I really want to thank my supervisor, Assist. Prof. Dr. Jingjing QIN, for her academic support and guidance throughout the completion of this dissertation

Secondly, from bottom of my heart many thanks go to Prof. Dr. Ayşe S. AKYEL as she has always supported and encouraged me throughout the process. Without her, I would not complete this dissertation.

In addition, I really appreciate what Assist. Prof. Dr. Youjin KIM, from Georgia State University, did to me from the very beginning to the end of this journey.

Finally, I really want to thank Prof. Dr. Rod ELLIS as he not only gave me his invaluable opinions of the instructional groups to be compared in the experiment but also designed the whole procedure related to the study.

I also would like to express my gratitude to some other important professors and people helping me throughout the process such as:

Assoc. Prof. Dr. Carol GRIFFITHS for the academic discussions we did together and for the valuable feedback and positive support she gave me throughout the process

Assoc. Prof. Dr. Hüseyin KAVAS for doing all the statistical analyses of the dissertation. Without his great and endless effort, the result chapter would not be completed now

Assoc. Prof. Dr. Hossein FARHADY for the confirmation of the statistical analyses

Assist. Prof. Dr. Zeynep KOÇOĞLU for her positive support and encouragement

Assist. Prof. Dr. Erkan KARABACAK for his valuable opinions of the dissertations

Prep school principle Sabahattin ATALAY and Sabri KIZILASLAN for their designing of the prep school syllabus according to the research timeline

Prep school teachers for accepting me into their classes and helping collect data

Recep ADIGÜZEL for serving me drinks while I was at the prep school for the research

Fikri GEÇKİNLİ for sharing his office at the prep school and for the invaluable discussions we did together

Gökhan CANSIZ for the revision of the first and second chapter

My students at the ELT department for helping me collect data, especially M.Emre ALTINBAŞ, Salih ERGEN, and Mustafa HARMAN

My dearest friends Görsev İNCEÇAY, Volkan İNCEÇAY, Ayşegül NERGİS and Ece GENÇ, Hüseyin KINAY, and last but not least Hikmet MERCANKAYA for being always by my side during those difficult days

Finally, my elder sister, Assist. Prof. Dr. Serap KAVAS, for her positive and endless encouragement

DEDICATION

I dedicate this thesis to my love, Fatma Nur, who has always stayed by my side and to my handsome son, Eymen Erdem, who has later joined in this PhD journey.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

LIST OF ABBREVIATIONS

SLA	Second language acquisition
IP	Input processing
PI	Processing instruction
PBI	Production-based instruction
EI	Explicit information
SI	Structured input
TI	Traditional instruction
MOI	Meaning-based output instruction
MDI	Meaning-based drills instruction
CO	Communicative output instruction
DG	Dictogloss activities

ABSTRACT

Comparing the Effects of Processing Instruction and Production-Based Instruction on the Regular Verb Form of English Simple Past Tense: The Role of Explicit Information

ADEM SORUÇ

Over the last two decades, the importance of grammar instruction for second language (L2) development has occupied a major place in the pedagogy. This dissertation study investigated the effectiveness of processing instruction (PI) and production-based instruction (PBI) on the acquisition of English simple past tense regular verb morphology (-ed). In addition, the role of explicit grammatical information (EI) was examined.

In total, 194 EFL university students at the preparatory school of a private university in Turkey were randomly selected to form four instructional groups: PI groups with EI (PI+EI) and without (PI-EI); PBI groups with EI (PBI+EI) and without EI (PBI-EI), and a control group. The performance of all five groups was measured three times throughout the study: a pretest one week before the study, an immediate posttest one day after the instructions, and a delayed posttest three weeks after the instructions. The tests included interpretation (aural and written) and production (oral and written) tasks.

A series of 5 × 3 ANOVA with repeated measures were run for the analyses. Firstly, the results revealed that all four instructional groups improved their performance more than the control group from pretest to posttest 1 and posttest 2. Secondly, while PI+EI group outperformed PBI+EI group on the interpretation tasks, both groups performed equally well on the production tasks. Thirdly, however, PI-EI group did not perform better than PBI-EI group on the interpretation tasks; both performed equally well on the production tasks. Fourthly, no statistically significant difference was found for the comparison of

PI+EI vs. PI-EI groups, and PBI+EI vs. PBI-EI groups, which thereby showed that EI did not play a significant role in either PI or PBI.

This dissertation provides an array of theoretical, methodological, and pedagogical implications to L2 teachers in general and Turkish EFL teachers, in particular. For instance, the study showed that both PI and PBI were effective in helping Turkish EFL learners acquire the target form. But as for the greater effectiveness of the instructions among each other (PI+EI vs. PBI+EI and PI-EI vs. PBI-EI), especially on the interpretation tasks, PI-EI group receiving structured input activities alone did not perform better than PBI-EI group receiving structured output activities alone (PI-EI = PBI-EI). When EI was added as one component into instructional sequence for PI and PBI groups, this time PI+EI performed better than PBI+EI on the same interpretation tasks (PI+EI > PBI+EI), which thereby showed that VanPatten's input processing model needs one more component: Explicit Information (see figure 7). That is, structured input activities per se are not enough. This study partially confirmed VanPatten's processing instruction which helped learners produce as well as learners receiving production-based instruction on the production tasks. However, in contrast to what VanPatten found, processing instruction needed EI to be able to outperform PBI groups on the interpretation tasks.

The study also offers some clear directions for future research to L2 researchers, such as the effect of L1 transfer on L2 interlanguage development and the involvement of computer-based tools such as "E-prime" as a methodological instrument to ensure the accuracy of the collected data.

OZET

Dilsel Girdi ve Dilsel Üretime dayalı Eğitimin İngilizcedeki Geçmiş Zaman Ekinin (-ed) Edinimine Etkisinin Kıyaslanması: Dilbilgisi Anlatımının Rolü

ADEM SORUÇ

Bu tez İngilizcedeki geçmiş zaman ekinin (-ed) ediniminde dilsel girdinin (input) ve dilsel üretiminin (output) etkisini araştırmıştır. Buna ilaveten, tezde, dilbilgisi anlatımının (explicit information) dilsel girdiye ve dilsel üretime ne kadar etkisinin olduğu da araştırılmıştır. Bunun sonucunda, dört farklı deney grubu oluşmuştur. Sırasıyla anlatımlı ve anlatımsız girdi ve üretim grupları tezdeki İngilizce kısa adlarıyla şu şekildedir. (1) Sadece dilsel girdi (PI), (2) Dilsel girdi+Anlatım (PI+EI), (3) Sadece dilsel üretim (PBI), ve (4) Dilsel üretim+Anlatım (PBI+EI). Deney grupları bir kontrol grubu ile de kıyaslanmıştır.

Bu çalışma Türkiye'deki özel bir üniversitenin İngilizce hazırlık okulu öğrencileri üzerine yapılmış olup çalışmaya toplamda 194 öğrenci katılmıştır. Deney öncesinde öğrenciler rastgele seçilmiş; deney ve kontrol gruplarına rastgele dağıtılmışlardır. Her bir deney grubu ard arda iki gün boyunca dört saat eğitim almıştır. Öğrenciler, deneyden bir hafta öncesinde ön test, eğitimden hemen bir gün sonra son test ve eğitimden üç hafta sonra da geciktirmeli son test almışlardır. Testler, öğrencilerin kavrama (comprehension) ve üretim (production) düzeylerini okuma, dinleme, yazma ve konuşma gibi dört beceri ile ölçmüştür.

Bir dizi 5 × 3 ANOVA analizi yapılmış ve şu sonuçlar ortaya çıkmıştır. Birincisi, bütün deney grupları tüm testlerde kontrol grubundan daha başarılı olmuştur. İkincisi, dilsel girdi ve anlatım (PI+EI) eğitimi alan grup dilsel üretim ve anlatım (PBI+EI) eğitimi alan gruptan kavrama testlerinde daha başarılı olmuş; üretime dayalı testlerde de eşit skor

elde etmiştir. Ancak, üçüncüsü, sadece dilsel girdi eğitimi alan (PI) alan grup sadece dilsel üretim (PBI) eğitimi alan grup ile hem kavrama hem de üretime dayalı testlerde eşit performans göstermiştir. Bu sonuç bir önceki sonuç ile beraber düşünüldüğünde dilsel girdi (PI) eğitiminin yeterli olmadığı; ekstra dilbilgisi "anlatımın" PI grubu için gerekli olduğu ortaya çıkmıştır. Son olarak ise, dilsel girdi (PI) anlatımlı ve anlatımsız gruplar ve dilsel üretim (PBI) anlatımlı ve anlatımsız gruplar kendi içlerinde kıyaslandığında hem kavrama hem de üretime dayalı tüm testlerde eşit çıkmışlardır.

Sonuç olarak, bu tez dilsel girdi ve dilsel üretimin İngilizce öğrenimindeki rolünü incelemesinin yanı sıra "dilbilgisi anlatımının" da ne kadar etkili olduğunu araştırmıştır ve sonuçlar göstermiştir ki hem dilsel girdi ve hem de dilsel üretime dayalı eğitim İngilizcedeki geçmiş zaman ekinin (-ed) ediniminde etkili olmuştur. Ancak şu sonuç ta akılda tutulmalıdır ki "dilbilgisi anlatımının" dilsel girdi grubunun dilsel üretim grubundan kavrama testlerinde daha başarılı olmasını sağlamıştır. Sonuç olarak bu çalışma, dilbilgisi anlatımının dilsel üretime bir etkisinin olmadığını; aksine, daha fazla kavramaya yardımcı olduğunu ortaya koymuştur.

CHAPTER 1 - INTRODUCTION

The field of Second language acquisition (SLA) has considerably developed and expanded over the last four decades (Gass and Selinker, 2008). Still, the fact that it is multifaceted prevents SLA from being understood fully. Multiple processes such as acquiring rather abstract linguistic and syntactic system, an array of sociolinguistic and pragmatic rules and a series of phonological and morphological processes are yet to be revealed (VanPatten, 2004a). This dissertation investigated morphological processing of Turkish learners of English by comparing processing instruction with and without explicit information (PI+EI; PI-EI) and production-based instruction with and without explicit information (PBI+EI; PBI-EI).

The role of input is of great importance in the acquisition of both native language and second language. To emphasize the role of input, Krashen (1978, 1982), for instance, states that explicit instruction or deliberate attempt to focus learners' attention on a specific linguistic structure does not help learners acquire it. Instead, he suggests that learners extract data from "comprehensible input" (1985), from which they can develop their language system. Put simply, according to Krashen (1985) second language learners acquire language "by understanding messages, or by receiving 'comprehensible input' (p. 2).

As a reaction to Krashen, Schmidt (1990; 2001) concludes that 'subliminal language learning is impossible, and that noticing is the necessary and sufficient condition for converting input to intake' (1990, p. 129). Schmidt argues that incidental acquisition of many structures does not happen automatically when learners are exposed to comprehensible input, which might have an impact only 'when the demands of a task focus attention on what is to be learned' (1990, p. 129) and thus suggests learners be encouraged

to develop conscious attention to form (noticing) as they need to deal with ‘a whole battery of different processing mechanisms’ (Sharwood Smith, 1993, p. 165).

In addition, VanPatten (1990) conducted an experiment in consciousness asking learners to process form and establish meaning under four different conditions: (a) meaning alone; (b) simultaneous attention to meaning and an important lexical item; (c) simultaneous attention to meaning and a grammatical functor; (d) simultaneous attention to meaning and a verb form. The results of this study, although different from those of Krashen’s, showed that learners especially at early language learning stage found it difficult to attend to and process both form and content at the same time, preferring the latter to the former.

To direct learner’s attention to form which “comprehensible input” itself could not provide, some SLA researchers (for instance Ellis, 1990; Larsen-Freeman and Long, 1991) advocate formal instruction in classroom environment for second language acquisition. Other researchers (Ellis, 1990; Terrell, 1991; VanPatten, 1993) suggest that explicit grammar instruction should be used to attain an advanced level of acquisition or to help L2 learners develop greater L2 proficiency (N. Ellis, 1994). Moreover, grammar instruction creates saliency and facilitative effect, and thus it is thought to be ‘an aid to the learner in the acquisition process by making certain grammatical forms more salient and thereby aiding the learner to establish correct meaning-form connections.’ (Terrell, 1991, p. 62)

Somewhat more specifically, for instance, after reviewing the results of eleven studies that investigated the effect of formal instruction on the rate and success of second language acquisition, Long (1983a) found “considerable evidence to indicate that second language instruction does make a difference” (p. 374). With this review study Long concluded that instruction has a positive effect on the acquisition process of the target

structure whether it should be 1) for children or adults, 2) for beginning, intermediate, or advanced students, 3) on integrative or discrete-point tests, and 4) in acquisition-rich or acquisition-poor environments (p. 359), thereby suggesting that a combination of both instruction and exposure to input should be employed rather than exposure to comprehensible input alone.

Additionally, Schmidt's (1984) case study 'Wes', a Japanese immigrant to the US, was found to be at a very high level regarding strategic competence but at a low level in terms of linguistic competence as he focused not on form but on meaning. Schmidt (1984) argued at the end of his report that "in addition to communicative effort, cognitive effort is a necessary condition for successful adult SLA" (p. 14) and called further research studies to be carried out on noticing, conscious involvement or explicit learning or instruction.

Schmidt's appeal brings forth a fundamental question for language classes: what type of methodology or what kind of explicit instruction should teachers follow? In response to this question, VanPatten (1990) puts forward "input processing" theory and Processing Instruction (PI) as its pedagogical tool. VanPatten argues that PI, as an explicit type of instruction that uses structured input (SI) activities, aims to help learners perceive and process input in a higher quality way. That is, VanPatten gives much less importance to the role of output as it requires learners to produce language too prematurely, a view that contradicts Swain (1985, 1995, 2005, 2007), whose 'comprehensible output hypothesis' emphasizes the role of 'output' in language acquisition (see more detailed explanation in the following chapter).

This leads to another debate as to how teachers should teach grammatical structures and/or whether one type of instruction, namely processing instruction and production-based instruction, outweighs one another. To address this gap, this dissertation

has investigated morphological acquisition of English simple past tense (regular verb form) by comparing two different types of instruction with and without explicit information (EI) in classroom environment:

a) Processing instruction (PI+EI; PI–EI)

b) Production-based instruction (PBI+EI; PBI –EI)

The remainder of this dissertation is organized as follows. The next chapter first of all defines the role of input as discussed in Krashen's (1985) "input hypothesis" and VanPatten's (1993, 1996, 2002a, 2004a, 2007a&b) "input processing" theory. Next, it briefly redefines the major role of input with multiple L2 lenses from theories of language acquisition. Then the role of output is discussed by comparing Swain's (1985, 1993, 1995, 2005, 2007) "comprehensible output hypothesis" with VanPatten's "input processing" theory. At the end, the framework and underlying principles of input processing and processing instruction are explained to give the rationale of the available research studies and the present dissertation.

The third chapter reviews previous research studies into input processing theory. These studies provide background about different experimental studies conducted so far as well as the motivation of this dissertation by giving insight into the possible effects of PI and PBI and the role of explicit information (EI). Following are the statement of the problem in the literature and the significance of the dissertation. Finally, research questions are introduced.

The fourth chapter presents the pilot study and main study along with their research methodology and design. Specifically, it gives background information about the participants, which is followed by information about different instructional materials for

both PI and PBI groups. Finally, assessment materials and instructional and data collection procedures (e.g., tests and scoring procedures) are explained.

The fifth chapter presents the analyses and results of both interpretation and production tasks. Then, it is followed by the further results of aural and written interpretation task and written and oral production task for four of the instructional groups and the control group.

The sixth chapter begins with a discussion of the results of the experiment by giving the research questions and hypotheses, which is followed by the discussion of the results providing theoretical background with previous research in the literature. Then, the chapter concludes with some pedagogical implications for English language teachers. Finally, it presents the limitations of the experiment and gives some suggestions for further research.

.

CHAPTER 2 - THEORETICAL BACKGROUND

The Role of Input in SLA

Defined, firstly, as processing of what is available to learner (Corder, 1967), or defined as the "language the learner hears (or reads) and attends to for its meaning" (VanPatten and Williams, 2007a, p.9), input is a prerequisite to acquiring both native language and second language (Ellis, 1990; Larsen-Freeman and Long, 1991). In fact, today it is very rare to find SLA researchers who do not accept the role of input in acquisition. With regard to the importance of input, Mitchell and Myles (2004, p. 20) stated that "…indeed, it is common ground among all theorists of language learning, of whatever description, that it is necessary to interpret and to process incoming language data in some form, for normal language development to take place. There is thus a consensus that language input of some kind is essential for normal language learning."

Somewhat more specifically, Krashen (1985) put forward the Input Hypothesis, arguing that for acquisition to happen learners need comprehensible input only that contain structures ahead of their current knowledge (i+1). In other words, Krashen states that 'we move from i, our current level to i + 1, the next level along the natural order, by understanding input containing i + 1' (1985, p. 2). According to his assumption, input focusing on meaning rather than on form activates the innate faculty or language acquisition device.

Several aspects of Krashen's input hypothesis have had important implications for language classrooms. The first is the precedence of receptive skills over productive ones. Krashen claims that speaking is one result of acquisition, not its cause and therefore that speaking occurs as a direct effect of comprehensible input. Put simply, production does not lead to acquisition. The second is that teachers do not need to worry about whether they are

'teaching' the target grammatical structure correctly. Krashen argues that if the input is comprehensible and if there is enough of it, the target linguistic structure is automatically acquired, thus making it unnecessary for language teachers to teach any structure explicitly. To sum up, teachers do their job well enough as long as they provide input and avoid grammar instruction.

But this is where VanPatten's (1993, 1996, 2002a, 2004a) Input Processing Theory and Krashen's Input Hypothesis differ, as the former supports the view that exposing learners to a grammatical structure may not be sufficient to help them acquire the target structure. VanPatten therefore advocates "input processing" in order to make learners notice or become aware of structure, by means of which learners can convert input into intake in an easier way (see figure 1). To do this, VanPatten introduces structured input (SI) activities specifically prepared on a default processing problem so that instruction can work with acquisitional processes, not against them. Some other objections to the Input Hypothesis lie outside the present section.

Instead, we need to delve into the role of input through the multiple lenses of SLA theories, of which the following section gives an account.

SLA Theories and Input

Although L2 acquisition theories accept the role of input, the extent to which they attach importance to it differs markedly (VanPatten and Williams, 2007a).

Behaviorist theories, for example, view the input and output as the principal requirement for L2 acquisition. According to the Behaviorist Learning Theory, the teacher should control, structure input and provide adequate stimuli to L2 learners. The theory gives much more importance to the language (the input) that children or adults are exposed to. To behaviorists, it is this stimulus namely input that leads to the development of good

habits and cumulative learning for language acquisition. Postman (1971, p. 1019) also states that "learning is a cumulative process. The more knowledge and skills an individual acquires, the more likely it becomes that his new learning will be shaped by his past experiences and activities…" (cited in Gass and Selinker, 2008, p. 93). In short, behaviorism prior to 1970s viewed the input as a "major driving force" (Gass, 1997, p.49) for L2 acquisition.

On the other hand, mentalist theories claim that input alone cannot aid children or L2 learners to attain the complexities of linguistic knowledge and thus they argue that "innate linguistic properties fill in where the input fails" (Gass and Selinker, 2008, p. 161). To the nativist theories, input is insufficient for language development, claiming that 'the input underdetermines linguistic competence' (White, 1990, p.121) as competent speakers are able to create novel sentences that they have not heard before or that they still are not exposed to. They argue that learners are equipped with innate potentials or knowledge to use, which input by itself cannot provide. Given that input alone is not adequate in terms of quantity and quality to arrive at the core grammars of the target language, mentalist theories mediate the process by proposing Universal Grammar (UG) and L1 transfer (Ellis, 2008).

What if language representation comes out not as a set of abstract rules (opposition to UG based theories) but as a neural network system that strengthens over time through experience or structured practice? Or, what would happen to L2 acquisition if the quality and quantity of the input are manipulated and enhanced? This is VanPatten and some other researchers are trying to find out; that is, possible ways of enriching the quality of learners' input vis-à-vis making them produce. VanPatten and Cadierno (1993), VanPatten (1993, 1996, 2002a, 2004a) and Wong (2004a) suggest a plethora of influential ways to improve

the quality of input through processing instruction activities, about which the following sections give much detailed information.

Thirdly, integrationist theories view learning not situated in an individual's cognition, but anchored in the social practices that they engage in. That is, learners centralize interaction with input containing necessary data for acquisition. Ellis (1984) gave importance to the interaction by stating that interaction is conducive to the development of the language as 'the learner is able to crack the code' (p. 95) by making inferences from the messages that include unfamiliar linguistic items to their linguistic competence.

Furthermore, inconsistencies between the first and second language may surface in learners' minds or learners may pay more attention to those areas where they have failed (Gass and Selinker, 2008). By means of negotiation, learners gain opportunities to produce and receive feedback on these attempts, leading to the 'facts' of the L2 to become salient to the learner (Ellis, 2008). Gass (1997) also states that negotiation or interaction may be the first step in learning and thus may function as a priming device. The importance of negotiation receives further support from Pica (1994) and notably from Long's (1996, pp. 451–452) Interaction Hypothesis stating that 'negotiation for meaning…triggers interactional adjustments…, facilitates acquisition because it connects input, internal learner capacities, particularly selective attention, and output in productive ways.'

In short, input alone is not viewed as the single crucial factor for language development in SLA. As "an important extension of the input" (Loschky, 1994, p. 304) the input and interaction hypothesis (Long, 1980, 1983b, 1985; Pica, Young, and Doughty, 1987) or the later updated version of the Interactionist Hypothesis (Long, 1996) also found support for the effectiveness of the hypothesis at production level (Gass and Varonis,

1994), at lexical acquisition process (Ellis, Tanaka, and Yamazaki, 1994), and on the acquisition of recasts as specific interactional features (Long, Inagaki, and Ortega, 1998; Mackey and Philp, 1998).

However, there are also studies (for instance Loschky, 1994) investigating the degree to which both Krashen's input hypothesis and Long's interactionist hypothesis have only facilitative effect in second language acquisition. In Loschky's (1994) study, three experimental groups were compared at Japanese language as the target language: (1) unmodified input with no interaction, (2) premodified input with no interaction, and (3) unmodified input with the chance for negotiated interaction (p. 303). Loschky explored that in terms of gains in vocabulary recognition and acquisition of grammatical structures, the three groups had equal performance on both measures, thereby showing that there is no effect of interaction on grammatical development of L2 learners.

To fill this gap, the role of output in SLA or the importance of production-based instruction in second language classrooms has been discussed almost over three decades, which the following section directly addresses.

The Role of Output in SLA

Output plays an important role in L2 acquisition. Gass (1997) views output not only as a concrete evidence for the occurrence of acquisition but also as a source of acquisition, for which she cites Swain's (1985) "comprehensible output hypothesis".

Immediately after Krashen (1984) argued that comprehensible input is 'the only true cause of second language acquisition' (p. 61), Swain (1985) pointed to the role of the output or to the fact that it was lack of the production ability that caused less success in learners' language development, not the availability of the comprehensible input after six or seven years of education. Specifically, this was concretized after Swain's (1985) formal

and informal observations of French immersion learners in Canada who performed equally to francophone learners of the same age on comprehension based tests, but not on production based (e.g. speaking and writing) tests and thus came into being as Swain's "output hypothesis".

Swain (1985) states that comprehensible output refers to a situation that requires negotiating meaning through which a learner is 'pushed toward the delivery of a message that is not only conveyed, but that is conveyed precisely, coherently, and appropriately' (p. 249). By "negotiating meaning*"* in the initial version of the output hypothesis, Swain (2007) means "collaborative dialogue" or redefines it as "knowledge-building dialogue…a dialogue that constructs linguistic knowledge" (p. 73). Therefore, learners are easily able to internalize the process and/or knowledge that they could gain through external speech or conversation (Swain, 2007). In some of the experimental studies, Swain and her colleagues (e.g., Kowal and Swain, 1997; Swain, 1998; Swain and Lapkin, 1998; 2002) also found the positive impact of collaborative dialogue as a principal force in language learning process.

Swain claims that never is input sufficient to acquire the language; in other words, that the use of syntax is necessary to interpret the meaning in one language. Put it differently, Swain (1985) claims that producing the language "may force the learner to move from semantic processing to syntactic processing" (p. 249). Swain (1995, 2007) also places emphasis on the role that output might play in second language learning and mainly on the three functions of the output:

i. Noticing/triggering function

ii. Hypothesis testing function

iii. Metalinguistic (reflective) function

As Ellis (2008) stated, *noticing* is important for a language form to be acquired. Similarly, Swain (1995; 2005; 2007) claims that while producing, the learner may diagnose their linguistic weaknesses, become aware of the pitfalls they experience, pay more attention to a form that they need to master, and thus sometimes may discover new linguistic knowledge.

Moreover, to learn a language, the learner needs to develop some hypotheses of that language or of how the target language works. Swain (2007) states that this can happen with "collaborative dialogue" (p. 73) in which a "trial run" (Swain, 2005, p. 476) starts, hypotheses are generated, tested and confirmed at the end.

In addition, learners fill in the holes noticed during this process by asking their peers or teachers, or referring to a resource, or bringing their attention to the future relevant input (Swain, 2007), thereby leading to the enhancement of the learner's metalinguistic knowledge.

As for the significance of the output and its role in the development of syntactic and morphosyntactic knowledge, Swain (1995) also claimed that "output may stimulate learners to move from the semantic, open-ended, nondeterministic, strategic processing prevalent in comprehension to the complete grammatical processing needed for accurate production. Output, thus, would seem to have a potentially significant role in the development of syntax and morphology" (p. 128) Proponents of output hypothesis, notably Swain (1993, 1995; 2005) report that output is not only a by-product of acquisition but it also plays an active role in the overall acquisition process, given that production directs learners' attention to the target structure and to the gap in their developing system. Reviewing the previous literature to illuminate the underlying psycholinguistic mechanisms of Swain's output hypothesis claiming that production leads the learner to

move from semantic processing to syntactic processing, Izumi (2003) argued that 'the processes of grammatical encoding during production and monitoring to check the matching of the communicative intention and the output enable language learners to assess the possibilities and limitations of their interlanguage capability' (p. 168). This language awareness gained after production is likely to 'serve as an internal priming device' (Izumi, 2003, p. 168) to create optimal language learning atmosphere for learners.

However, this concept underlining Swain's output hypothesis has recently been challenged by some researchers (e.g., Shehadeh, 2002) who have raised some doubts as to whether and how output facilitates language learning, claiming that it is still difficult 'to make claims of output leading to acquisition or to argue that various hypothesized output processes are part of L2 learning' (p. 612). Other researchers such as Izumi (2002), Adams (2003), and Hanaoka and Izumi (2012) have raised questions about the few empirical studies and reflected to the importance of output in the long term language development.

The experimental data are rather controversial, and there is no general consensus about the greater role of the output than that of the input. For instance, VanPatten (1993; 1996; 2004a; 2007b) seems to argue against Swain's output hypothesis, but it does not mean that there is no role of output in his acquisitional model (Figure 1). Rather, VanPatten (1993) suggests that 'grammar instruction would be more congruent with overall instruction if it were input oriented' (p. 435). In short, VanPatten views both input and output as having complementary roles, but still giving much more importance to the former as the fundamental linguistic source for acquisition.

VanPatten (2004a) sees the input as the starting point for language development, not the end point, thereby suggesting some instructional ways, namely structured input, activities to make the input more salient and processing more controlled.

VanPatten (1996) identifies PI as ‘a type of grammar instruction whose purpose is to affect the ways in which learners attend to input data. It is input-based as opposed to output based.’ (p. 2) To achieve this, VanPatten (1996) points to the processing instruction and finds it ‘beneficial when it identifies an incorrect or less than optimal processing strategy and then fashions input activities that help to circumvent the strategy’ (p. 8). Simply stated, VanPatten supports the instruction which is directed to how learners perceive and process input, not the instruction which is directed to how learners practice language via output.

VanPatten’s findings show that negotiated interaction or output itself is not the only central part of acquisition that paves the way for directing learners’ attention to their default processing strategies. In other words, VanPatten gives emphasis to the importance of input processing mechanisms or processing instruction to attract learners’ attention to those gaps, where output fails, in the target language. This is detailed in the following literature review chapter with the key findings of relevant studies.

The Framework of Input Processing

VanPatten (2004a) first identifies processing as ‘an on-line phenomenon that takes place in working memory (p. 7) while establishing, whether partial or complete, connection between a form and its meaning. VanPatten (2004a) differentiates processing from perception and noticing. He states that *perception* ‘refers to the acoustic signal registration that happens to all auditory stimuli’ (p. 6) earlier before attending to meaning and that this acoustic registration is proved to be deleted without attending to the meaning in many cases. VanPatten also claims that *noticing* occurs when the learner consciously focuses on a form ‘but not necessarily with any meaning attached to it’ (p. 6) He argues that perception of a form, or noticing, does not mean that the form has been detected, processed, organized and stored into a linguistic repertoire. Schmidt's (1994) noticing

hypothesis further provides support for VanPatten's claim: "Noticing is used here as a technical term to refer only to registration of the occurrence of a stimulus event in conscious awareness and subsequent storage in long term memory, not the detection of form/meaning relationships or inductive formation of hypotheses or other processes that may lead to the organization of stored knowledge into a linguistic system." (Schmidt, 1994, p. 179)

N. Ellis (2004) on the other hand argues that attention 'is required in order to bind features to form newly integrated objects' (p. 65). N. Ellis favours the involvement of explicit learning especially at the very beginning as both "attention and conscious identification" (p. 65) are necessary for the initial registration of a language representation. Furthermore, N. Ellis argues that it is 'the associative learning of representations that reflect the probabilities of occurrence of form-function mappings' (p. 53) and thus finds input frequency 'a key determinant of acquisition.' (p. 53).

VanPatten (2004a) likewise discusses that not all input is likely to be processed without processing mechanisms and focused practice, as in the figure 1. Neither is *intake* in the same figure 1, which VanPatten views as 'not just filtered data (i.e., a mere subset of the input) but it may include data processed incorrectly (i.e., the wrong form meaning connection may be made)' (p. 7). Therefore, VanPatten finds his model of Input Processing beneficial for second language development and has explored its facilitative effects for a healthier linguistic system by conducting a plethora of research studies.

Today it has been almost two decades since the original research of VanPatten and Cadierno's (1993) study. A large number of studies have investigated whether input or output oriented instruction has more impact on the acquisition or internalization of

different grammatical structures. So, it is noteworthy what VanPatten has meant for years by input processing and processing instruction.

VanPatten (1993) acknowledges the necessity of "comprehensible meaning-bearing input" (p. 435) for the second language development while questioning the traditional way of grammar instruction with explanation plus output practice: structured input oriented activities are more conducive to language acquisition. In the same year, VanPatten and Cadierno conducted an experimental study to investigate the role of structured input under the Model of Input Processing, and compared this specific type of grammar instruction with two types of traditional grammar instruction. At the end, they found the major effect of processing instruction at comprehension level over the traditional ones and no difference at production level between the groups.

VanPatten (1996) argues that input is filtered, processed by the internal processers into intake and finds its way into the developing system at any given time (see figure 1). VanPatten defines input processing as 'what learners do to input during comprehension – how intake is derived' (p. 7) and puts forward some of the principles of his model, which are detailed in the following section. Almost a decade later, VanPatten (2002a) updated his model of input processing and explained 'how learners derive intake from input…how learners get form from input and how they parse sentences during the act of comprehension while their primary attention is on meaning.' (p. 757)

As a theoretical framework, VanPatten (2002b) gives a response to purported problems and claims of his model by arguing that the claims against the model first of all 'miss the point regarding the issue of design and replication' (p. 827) and that 'the IP model was never meant to be a final-state model of parsing' (p. 826).

VanPatten (2004a) later summarizes his input processing model succinctly as:

a) any model of input processing is not per se a model or theory of acquisition
b) a model of input processing …is not intended as a final state model
c) a focus on input does not suggest that there is no role for output in acquisition in its more general sense
d) input processing is not about instruction or about classroom-based learning only

Through his framework of Input Processing, VanPatten (2007b) assumes that "an integral part of language acquisition is making form–meaning connections" (p. 116) and he searches for the answers of the three main questions below:

i. Under what conditions do learners make initial form–meaning connections?
ii. Why, at a given moment in time, do they make some and not other form meaning connections?
iii. What internal strategies do learners use in comprehending sentences and how might this affect acquisition? (2007b, p. 116)

Put another way, in his later studies VanPatten (1993, 1996, 2002a) has investigated and described input processing as strategies and mechanisms learners use to make form-meaning connections. In those studies, VanPatten has found that learners are not always able to make form-meaning connection correctly, as the data in the input are not always taken in and thus filtered into learners' developing system (see figure 1). Therefore, VanPatten suggests that processing mechanisms in the input stage be strengthened by structured input, making form-meaning connection become easier for second language learners. To this end, Benati and Lee (2010) similarly, in their recently published book, describe input processing as 'cognitive processes by which learners make the initial

connection between a grammatical form and its meaning' (p. 4). This is called as input processing.

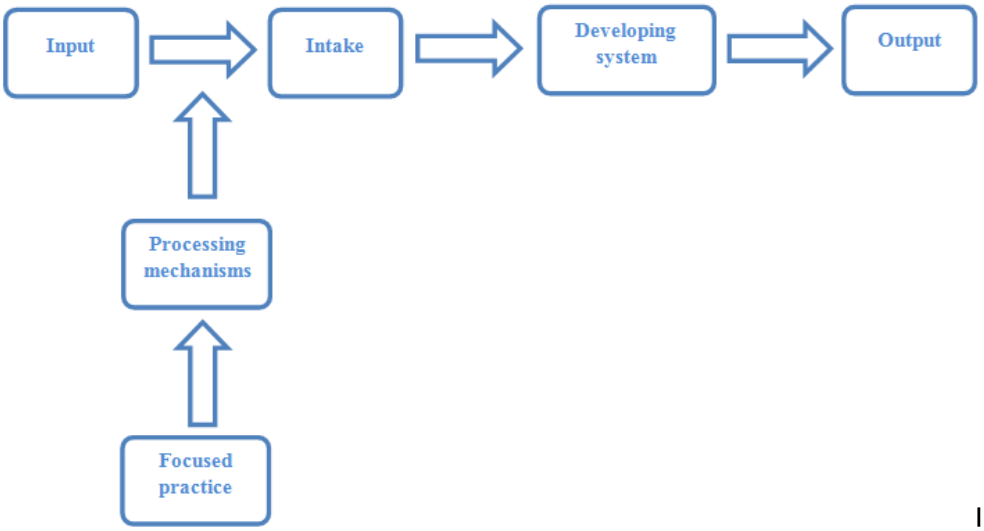


Figure 1. Processing instruction in foreign language teaching (VanPatten, 2004a, p. 26)

The Framework of Processing Instruction

VanPatten (1993, 1996) has developed a new pedagogical approach to teaching grammar, given "an update" (2002a, p. 755) and called it "*processing instruction*" (PI)". Broadly defined, it is one of the several ways in second language development 'to alter the processing strategies that learners take to the task of comprehension and to encourage them to make better form–meaning connections than they would if left to their own devices'' (VanPatten, 1996, p. 60). In other words, if the learner concentrates more on the processing-based instruction and is less engaged in the default processing strategies or the devices, then the learner has more comprehension and at the end establishes much healthier form-meaning connections.

Wong (2004a, p. 33) states that "the goal of Processing Instruction is to help L2 learners derive richer intake from input by having them engage in structured input activities that push them away from the strategies they normally use to make form–meaning connections." Given that not all input, comprehensible or not, does become intake (VanPatten, 2004a) and that sometimes input may be mistaken, such a type of processing-based grammar instruction is most likely 'to help learners to develop their internal linguistics system' (Lee and Benati, 2009, p. 37) or 'to intake a 'better' input' (Lee and Benati, 2009,p. 38).

Looking into the issue from another angle with different lenses, for instance from the other options occupying a major place in the pedagogy such as "*focus-on-form"* and "*focus-on-form**s**",* one can understand considerably better what processing instruction is and how it differs from them.

Ellis, Basturkmen and Loewen (2002) for instance argued that focus-on-forms as one type of grammar instruction aims to teach grammatical structures in the traditional focus-on-forms lesson based on linguistic syllabus, concentrating intensively more on the form itself with the help of classical three PPP's (presentation, practice and production). Focus-on-form, on the other hand, gives priority to meaning and thus task-based syllabus, by means of which it aims to teach grammatical structure whether in a planned and intensive focus-on-form class or in an incidental and extensive focus-on-form class (Ellis, Basturkmen and Loewen, 2002). In focus-on-form class, learners are first engaged in communicative activities and then focus on form. For the advantage of this type of focus-on-form instruction, Doughty and Williams (1998a, p. 3) stated that 'the learner's attention is drawn precisely to a linguistic feature as necessitated by a communicative demand.' When looked from this point of view, language teachers also have the third option to

teaching grammar such as processing instruction which ‘falls more clearly within the category of instructional treatments called “focus on form” (VanPatten, 1996, p. 83-84) but some of its features make it different from the earlier two options.

More concretely, VanPatten (1996, p. 84) outlined the framework of processing instruction: “Simply bringing a form to someone’s attention is not guarantee that it gets processed… 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” (see figure 1)

Lee and VanPatten (1995, p. 94) maintain that PI ‘is a way to incorporate explicit grammar instruction into classes without sacrificing either communication or learner-centered activities.’ VanPatten (1990) maintains that PI is an explicit type of instruction, involving a series of interpretation or comprehension-based practices to help learners alter their default processing strategies in the acquisition process. During instructional stage never do these focused practices make learners produce the targeted structure, but merely allow ‘a more direct route for the learner to convert input to intake’ (Benati, 2001, p. 96).

Furthermore, VanPatten (1996) states that processing instruction’s ultimate goal is not to “pour knowledge of any kind into learners’ heads” (p. 85), but to help strengthen certain processing mechanisms which Sharwood Smith (1993) put forward. And thus VanPatten proposed structured input (SI) activities specifically to make certain grammatical forms more salient in the input, allowing learners to establish correct form-meaning connection in the acquisition process. In addition, VanPatten claims that SI activities enhance the quality of input, leading learners to perceive and then process input into their internalized knowledge. In other words, rather than manipulate learners’ output, SI activities ‘make a deliberate attempt to intervene in the acquisition process by giving the

learner explicit information concerning the target item and activities containing structured input' (Farley, 2001b, p. 289). How these activities are produced is not random; in contrast, based on some systematical ways. These influential guidelines fall outside the scope of this chapter so will be addressed in the materials section (see Chapter 3).

Instead, what should be followed here is some of the characteristics of processing instruction and structured input activities as not all activities based on input can be called structured input. More recently, VanPatten and Borst (2012) define PI as 'a specific type of focus on form or pedagogical intervention for grammatical structures' (p. 271) and list the following characteristics:

a) It is predicated on sentence-level processing strategies that learners take to the task of comprehending a second language (L2).
b) It is input oriented.
c) Input is manipulated (structured) in particular ways to alter processing strategies and increase better intake for acquisition.
d) It includes explicit instruction (EI) for the learner on both grammatical structure and processing problems.
e) It follows certain guidelines for the creation of structured input (SI) activities.

What all these mean is that before any instructional research is conducted on the relative effects of input, these characteristics should be closely followed. Moreover, those concerned with the effect of processing instruction on the acquisition process should better understand under what conditions PI works.

In another recent study, VanPatten and Uludag (2011) categorized how PI works into three parts:

i. A processing problem is identified and then linked to problems in processing a grammatical structure in the input.
ii. Learners receive explicit information on both the grammatical structure and the processing problem.
iii. Learners receive structured input activities, which contain input manipulated in particular ways to push learners away from less-than-optimal processing strategies (p. 45).

The conclusion of these findings is that original research into PI requires a firm grasp of its inner workings. Further needed to be well understood is the principles of Input Processing, which the next section discusses at a greater length.

Input Processing Principles

How learners allocate their attentional resources or how they prioritize them during online processing has led VanPatten (1993, 1996, 2002a, 2004a) to formulate and then update (VanPatten, 2007b) two overarching input processing principles along with their subprinciples, for example:

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.

Principle 1: The Primacy of Meaning Principle

Research underlines the fact that learners direct much more attention to meaning earlier than form. For example, VanPatten's (1990) study explored 'whether or not learners can

consciously attend to both form and meaning when processing input' (p. 287) by involving separately manipulated experimental groups exposed to simultaneous attention to a) meaning alone, b) meaning with a lexical item, c) meaning with a grammatical functor or d) meaning with a verb form. The results have revealed that simultaneous processing of both form and meaning was difficult for the learners, who thereby preferred meaning to form. This is not surprising, as 'learners are driven to look for the message or communicative intent in the input' (VanPatten, 2004a, p. 7).

This overarching principle consists of six (sub)principles below. Their definitions and relationship to the present dissertation are also discussed:

P 1a. The Primacy of Content Words Principle

Learners process content words in the input before anything else. This principle states that learners prefer content words or lexical items to decode meaning in the sentence before function words. Content words (e.g., verbs, nouns), also called "big words," help learners 'get the meaning of what is being said to them and their internal processors attempt to isolate these aspects of the speech stream during comprehension' (VanPatten, 2004a, p. 8). On the other hand, function words are "little words" or inflections on verbs and nouns and most commonly 'may be skipped over or only partially processed and then dumped from working memory as the processing resources in working memory are exhausted by the efforts required to process lexical items' (p. 8).

VanPatten's claims are based on earlier research findings (e.g., Klein, 1986; Bernhardt, 1992; VanPatten, 1990). For instance, Klein (1986) explored that less proficient learners had more tendency to repeat content words when asked to repeat utterances as opposed to higher proficient learners, who could repeat both content words and function

words simultaneously. Secondly, in an eye tracking study Bernhardt (1992) had found a major difference between native speakers and non-native speakers, showing that the former group fixated or placed their focal point on the end of the verbal morphology, whereas the latter fixated on the centers of words to get meaning. VanPatten (1990) had also found the same effect for the lower proficient learners having preferred meaning to form.

Thus the present dissertation has manipulated content words in the instructional materials; particularly adverbial cues (e.g., yesterday, last week) were left out in order to make learners concentrate only on the end of the verb morphology to refer to pastness.

P 1b. The Lexical Preference Principle

Learners will process lexical items for meaning before grammatical forms when both encode the same semantic information. If a specific grammatical form (e.g., -ed) provides a meaning that can already be encoded by lexical content words (e.g., yesterday) in the sentence, then "learners will thus seek out lexical forms of semantic notions in the input before they seek grammatical forms that encode the same semantic notions" (VanPatten 2007b, p. 118). Put simply, learners ignore English simple past tense marker as they rely on other cues and therefore do not connect tense marker or morpheme (e.g., -ed) as a form with its function or meaning (pastness).

In order to find support, Lee, Cadierno, Glass, and VanPatten (1997) examined the role of lexical and grammatical cues on processing past temporal reference. The participants listened to two different versions of the same narrative in Spanish:

i) adverbs plus verb inflection

ii) verb inflection only

The results showed that the input containing adverbial cues attracted much more attention of the learners, who 'better utilized them to reconstruct propositional content' (p. 10) than the input with grammatical cues only. However, in tense identification task, these adverbial cues did not improve tense recognition, particularly of the beginner learners whose limited proficiency short-circuited their comprehension (Clarke, 1979). Beginners preferred meaning to form. Other research studies in the literature found similar results (Lee, 1990, 1999; Rossomondo, 2007).

In short, learners especially at an early stage process lexical items for meaning before grammatical items or verb inflections when the two carry the same semantic information. This is a default strategy or a processing problem of second language learners, about which this dissertation has concerned by leaving all the lexical adverbs out in the instructional and assessment packets, thereby assuming that learners are more likely to rely on the verb inflections only to be able to reconstruct propositional content.

P 1c. The Preference for Non-Redundancy Principle

Learners are more likely to process non-redundant meaningful grammatical markers before they process redundant meaningful markers. The precept of this principle is highly similar to that of the Lexical Preference Principle. When the same meaning is conveyed by both lexical items and grammatical forms as in the sentence like "Paul helped his friends last week" learners do find morphological verb form -ed "redundant", thus do not make correct form-meaning connection. They rely more on lexical items (e.g., last week) in the sentence. However, the same result is not found for the progressive form – *ing* in English, which Benati and Lee (2010) explains by redundancy principle, claiming that progressive aspect marker does not create redundancy as it 'contributes unique information to the

sentential meaning (an event in progress); learners direct attention to it during processing.' (p. 17).

As with English simple past –ed tense marker, learners do not direct their attention to the third person singular – s in English because it does not carry unique information to the meaning in contrast to the progressive marker – ing. In order to explain it, VanPatten (2007b, p. 119) gives the two sample sentences

1) The cat is sleeping.
2) The cat sleeps ten hours every day.

VanPatten (2007b) states that the difficulty in (2) was due to the redundancy effect and that 'if learners are confronted with something like –ing on verb forms, they will be forced to make this form–meaning connection sooner than, say, third person –s because the latter is redundant and the former is not' (p. 119).

However, if the input is structured by removing lexical items (e.g., last week, every day) the grammatical form becomes more salient, thereby enabling learners to rely more on the grammatical form (e.g., -ed), grasp its meaning (pastness) and process it into their developing system efficiently. This is also called "structured input" activity, a series of which have been developed for the experimental research in this dissertation (see materials section in Chapter 3).

P 1d. The Meaning before Non-meaning Principle

Learners are more likely to process meaningful grammatical markers before non-meaningful grammatical markers. Learners tend to process meaningful grammatical structures than non-meaningful structures. VanPatten (2004a) uses "communicative value" (p. 11) to refer to this principle and explains that 'communicative value…is based on the

presence or absence of two features: inherent semantic value and redundancy within the sentence/utterance" (VanPatten, 1996, p. 24). According to this, one can state that not all the grammatical structures are meaningful and thus they are not processed efficiently. Benati and Lee (2010) argue that such structures 'express no real world semantic information' (p. 18) and provide some examples for non-meaningful grammatical markers as: "grammatical gender marking in Romance languages", "gender markings on adjectives in Italian", "subjunctive mood verbal morphology" (p. 18-19).

According to Benati and Lee (2010), for instance, 'that' in the sentence "I believe that he will succeed" has a grammatical function but does not express real world semantic information, thereby leading learners to process 'such non-meaningful formal features of language in the input later than those for which true form–meaning connections can be made' (VanPatten, 2007b, p. 120). On the other hand, learners are able to find, for instance, past tense verbal morphology – ed more meaningful and thus process and grasp its underlying function/meaning (pastness).

Given that it carries inherent semantic value, past tense marker – ed in English is the target structure investigated in this dissertation, about which specific material packets and structured input activities have been prepared (see the details in Chapter 3).

P 1e. The Availability of Resources Principle

For learners to process either redundant meaningful grammatical forms or non-meaningful forms, the processing of overall sentential meaning must not drain available processing resources.

This principle underlines cognitive effort or processing difficulty that learners particularly at an early stage may experience whether it should be redundant meaningful or

non-meaningful grammatical form. Learners at beginner level are more likely to focus on meaning than on form but then direct their attention to both as their proficiency level increases. That is, limited proficiency "short-circuits" (Clarke, 1979) beginner level learners' processing capacity of the grammatical feature of the form. This has also received growing support from other research studies (Klein, 1986; Lee, 1990, 1999; VanPatten, 1990; Bernhardt, 1992; Lee, et al., 1997; Rossomondo, 2007).

As to the Availability of Resources Principle, VanPatten (2007b) further claims that 'learners are limited capacity processors and cannot process and store the same amount of information as native speakers can during moment-by-moment processing' (p. 116). For this reason, in order not to cause much overload on working memory, VanPatten (1993) has described six ways as to how processing-based instructional materials should be prepared, two of which are highly related to the Availability of Resources Principle:

i. Present one thing (one function/use of a grammatical structure) at a time.
ii. Move from sentences to connected discourse.

These ways have been considered while preparing the material packets in the present dissertation. Sentences have included only one target structure – ed and moved from sentences to connected discourse, thus aimed not to drain available processing mechanisms of learners at beginner level.

P1f. The Sentence Location Principle

Learners tend to process items in sentence initial position before those in final position and those in medial position. When processing input or information, people process, store and remember best the items in the initial position before those in final and those in medial position consecutively. The mechanism works in the same way for learners. VanPatten

(2004a) therefore argues that processing-based instructional materials should contain sentences with structures especially in the sentence initial position as 'sentence initial position is more salient than sentence final position, which in turn is more salient than sentence internal or medial position' (p. 13). To support his Sentence Location Principle, VanPatten refers to other research studies. For instance, Barcroft and VanPatten (1997) and Rosa and O'Neill (1998) made learners repeat utterances that they heard and explored that the learners successfully repeated the items in initial position, which was followed by those in medial and final positions.

This principle has also been taken into account while producing the instructional and assessment sentences of this dissertation. For instance, all items related to the verb ending – ed have been placed in initial position of the sentences.

Summary of P1 and Its Associated Principles
P 1a. *The Primacy of Content Words Principle:* Learners process content words in the input before anything else (VanPatten, 2007b, p. 117).
P 1b. *The Lexical Preference Principle*: If grammatical forms express a meaning that can also be encoded lexically (i.e., that grammatical marker is redundant), then learners will not initially process those grammatical forms until they have lexical forms to which they can match them (VanPatten, 2007b, p. 118).
P 1c. *The Preference for Non-redundancy Principle*: Learners are more likely to process non-redundant meaningful grammatical markers before they process redundant meaningful markers (VanPatten, 2007b, p. 119).
P 1d. *The Meaning-Before-Nonmeaning Principle*: Learners are more likely to process meaningful grammatical markers before non-meaningful grammatical markers.

P 1e. *The Availability of Resources Principle*: For learners to process either redundant meaningful grammatical forms or non-meaningful forms, the processing of overall sentential meaning must not drain available processing resources (VanPatten 2004a, p. 14).

P 1f. *The Sentence Location Principle*: Learners tend to process items in sentence initial position before those in final position and those in medial position (VanPatten, 2007b, p. 125).

The first principle, "Primacy of Meaning Principle," and its associated principles focus on the development and internalization morphological features of L2 (e.g., third person singular – s, past tense marker – ed in English, Italian gender agreement and Japanese negative). Since this dissertation has investigated whether processing instruction or production-based instruction have greater impact on the acquisition of past tense marker – ed in English, P1 and its subprinciples have constituted the main components of both instructional and assessment materials.

Although the second principle focuses on the development of syntactic features of L2 and thus falls outside the scope of the present dissertation, it has also been explained below so that the total impact of the principles can better be appreciated.

Principle 2. The First Noun Principle

This principle focuses commonly on syntactic features of L2; for instance, the position of Spanish direct object pronoun and English passive voice. When languages have different word orders like English and Spanish, this principle may cause a delay especially on the acquisition of passives. In the sentence like "John was chased by Mary" learners tend to

interpret the first noun or pronoun “John” as the subject/agent of the sentence, not as the patient.

VanPatten (2004a) claims that ‘the human mind may be predisposed to placing agents and subjects in a first noun position’ (p. 15). To attenuate this predisposition of the learners, VanPatten (2004a) suggests three associated principles.

P2a. The Lexical Semantics Principle

Learners may rely on lexical semantics, where possible, instead of the First Noun Principle to interpret sentences. Rather than depending on word order, learners prioritize semantic meaning and rely on lexical semantics to interpret sentences.

3) The cow was kicked by the horse.
4) The fence was kicked by the horse.

VanPatten states that the sentence (3) may cause misinterpretation as ‘the cow’ and ‘the horse’ are capable of performing kicking. But (4) is not likely to be misinterpreted because a ‘the fence’ cannot perform the act of kicking. It is plausibility or lexical semantics that plays an important role here in interpreting the sentence and thus reducing the effect of first noun principle.

P 2b. The Event Probabilities Principle

Learners may rely on event probabilities, where possible, instead of the First Noun Principle to interpret sentences.The events we encounter in real life also influence how people interpret sentences.

5) The farmer was kicked by the horse.
6) The child was bitten by the dog.

For instance, the sentence (5) may cause people to think that 'the farmer' kicked the horse. But (6) prevents people from thinking that 'the child' bit the dog, because in the real world it is usual to see a dog bite a child, not the other way round.

P 2c. The Contextual Constraint Principle

Learners may rely less on the First Noun Principle (or L1 transfer) if preceding context constrains the possible interpretation of a clause or sentence. VanPatten (2004a) argues that it is contextual information that 'would push learners away from interpreting the targeted clause the wrong way' (p. 17). In a simple way, prior to the target sentence, if a preceding context is given, then it may constrain learners from seeing the first noun as the agent. In this way, learners do not depend on word order, but on the preceding context as in the examples form VanPatten and Houston's (1998) research in Spanish.

7) Gloria contó a su amiga que la atacó Ramón en casa.
   Gloria told her friends that her-OBJ attacked Ramon-SUBJ at home.
8) Roberto está en el hospital porque lo atacó María con un cuchillo.
   Robert is in the hospital because him-OBJ attacked Mary-SUBJ with a knife.

In the examples, the preceding context 'Gloria told her friends' (7) did not constrain the meaning and thus learners may misinterpret as to whether Gloria or Ramon attacked one another. However, (8) attentuated the use of first noun strategy as the preceding context 'Robert is in the hospital' gave a hint at 'Mary attacked Robert', not the other way round.

Summary of P2 and Its Associated Principles
P 2a. *The Lexical Semantics Principle*: Learners may rely on lexical semantics, where possible, instead of the First Noun Principle to interpret sentences (VanPatten, 2007b, p. 124). P 2b. *The Event Probabilities Principle*: Learners may rely on event probabilities, where possible, instead of the First Noun Principle to interpret sentences (VanPatten, 2007b, p. 123). P 2c. *The Contextual Constraint Principle*: Learners may rely less on the First Noun Principle (or L1 transfer) if preceding context constrains the possible interpretation of a clause or sentence (VanPatten, 2007b, p. 124).

All in all, input processing and its underlying theory become quite clear with the help of two overarching principles (P1 and P2) and their associated subprinciples. The research has so far investigated processing instruction by considering the precepts of these principles and confirmed their effects on input processing (see relevant research studies in the following chapter). The research in this dissertation is directly concerned with P1 and its six subprinciples, although P2 and its associated principles are also involved into the review of studies in the literature (some researched P1; some P2). Those studies considering either P1 or P2 and their results are detailed in the following chapter.

CHAPTER 3 - LITERATURE REVIEW

Introduction

The debate as to whether "Input" or "Output" serves more dominant roles in the acquisition of a second language still has not abated, and thus SLA researchers have been exploring their differential effects over the last two decades. Especially morpheme studies have involved different instructional treatments to investigate their relative importance in processing input and transferring it into the developing system and then output.

Since the publication of VanPatten and Cadierno's (1993) original study and VanPatten's input processing principles about the acquisition of morpheme (P1) and syntax (P2), a large body of research has mushroomed to confirm or disconfirm their possible effects.

This chapter provides literature review of studies comparing processing instruction (PI) with a variety of different types of output-based instruction as follows

i. Traditional instruction (TI)
ii. Meaning-based output instruction (MOI)
iii. Meaning-based drills instruction (MDI)
iv. Communicative output (CO) instruction
v. Dictogloss (DG) activities

This chapter consists of two sections.

With regard to their differential effects, the first section categorizes the studies in the literature and their findings into three headings:

a) Beneficial effects of Processing Instruction (PI)
b) Possible effects of Explicit Information (EI) in PI (comparison of PI+EI with PI–EI)

c) Beneficial effects of Production-Based Instruction (PBI)

The second section presents statement of the problem in those studies and thus motivation of the dissertation, followed by its main research questions and hypotheses. At the end, some terms are defined.

Studies Finding Beneficial Effects of Processing Instruction

The original study of VanPatten and Cadierno (1993) has brought about many studies to be conducted on the relative effects of processing instruction (PI), traditional instruction (TI) and meaningful-based output instruction (MOI). In other words, VanPatten and Cadierno's study has acted as a catalyst for further research on what type of instructional treatment(s) should be better to follow in a foreign language classroom. Therefore, there follows some of the replications related to processing instruction, the results of which similarly have shown supportive effect on different grammatical structures in different languages for the benefit of VanPatten's processing instruction; for example:

- Spanish accusative clitics direct object pronoun (VanPatten and Cadierno, 1993; VanPatten and Sanz, 1995; VanPatten and Fernandez, 2004; VanPatten, Farmer and Clardy, 2009; VanPatten, Inclezan, Salazar and Farley, 2009)
- Spanish preterit (past) tense (Cadierno, 1995)
- Spanish subjunctive (Collentine, 1998; Farley, 2001; 2004a)
- Spanish copula verbs *ser* and *estar* (Cheng, 2002)
- Italian future tense (Benati, 2001)
- French causative (VanPatten and Wong, 2004)
- English simple past tense (Benati, 2005)
- English passive voice (Qin, 2008)

First of all, VanPatten and Cadierno (1993) investigated the effects of PI and TI on the acquisition of Spanish clitic object pronouns, a common default strategy for English native speakers learning Spanish as L2. For instance, English learners of Spanish interpret (1) differently.

(1) *La* *sigue* *el* *senor*

Her-OBJ follows the man-SUBJ

It is widely interpreted as "she follows the man". This misinterpretation is not surprising, because VanPatten's First Noun Principle (P2) argues that learners tend to process the first noun or pronoun in a sentence as the agent or subject. Given a native English speaker assumes that the subject comes before the verb in (1) (e.g. sigue), they are more likely to misinterpret Spanish object pronouns in a sentence (for example, me, te, nos, etc.) as the subject or agent. The researchers therefore did an experimental study involving three second year university level Spanish classes receiving instructions: Control group receiving no instruction (n=18), PI group (n=19) and TI group (n=18).

TI group received explicit explanations about Spanish clitics and their position within the sentence, on the one hand; made sentences with those pronouns, on the other. In addition, learners in TI group were exposed to a series of mechanical sentences (e.g., oral and written transformation and substitution drills), to meaningful sentences (e.g., simple sentence formation) and to a more meaningful communicative practices such as conversation. In short, learners produced the target structure both in mechanical oriented form and meaningful ways.

In contrast, learners in PI group did not produce Spanish clitics at any time. They did comprehension-based practices instead. Learners analyzed the direct object pronouns within sample sentences, then contrasted the grammatical concepts of object and subject of

a verb, received explanations of important points to keep in mind about the pronoun position in Spanish and finally practiced two types of structured input (SI) activities. The first referential activity type pushed learners to read or listen to a series of utterances and then match what they had read or heard with pictures having different agents as subjects. The second activity type was affective activity which made learners give their opinions related to the content of an utterance saying only "agree" or "disagree", "true for me". In short, in neither of the activity was PI group allowed to produce the target structure.

VanPatten and Cadierno used one pretest and three posttests. All tests were formed with the help of split-block design to prevent test item familiarity and test order, thus included different versions of the same test like A, B, C, and D. For example, while version A was used for pretest for one group, version B for another group. This was the same for the other tests. All tests consisted of two assessment tasks. One was interpretation task, forcing learners to match what they heard with the pictures. The other was production task which made learners produce direct object clitic pronoun in the sentence correctly.

The results of pretest and posttests showed that PI group outperformed both TI and control group on interpretation task. However, the results of PI and TI group on the production task were not statistically different, though both still outperformed the control group. With this study, VanPatten and Cadierno publicly stated that even though learners in PI group did only comprehension based activities, they still increased their production scores as well as those in TI group having already received production based instructional activities. VanPatten and Cadierno therefore found 'instruction as direct intervention on a learner's strategies in input processing' (p. 54) significantly more effective to convert input into intake than traditional explanation. Furthermore, they argue that such an intervention, namely processing instruction, provides a "double bonus" (p. 54) for the learners, meaning

that learners both process the input better and gain sufficient knowledge to be able to produce it.

Secondly, Cadierno (1995) researched the effect of processing instruction on the acquisition of Spanish preterit (past) tense verb morphology by concerning the "lexical preference principle", stating that when both lexical items and grammatical forms refer to the same meaning, learners tend to prefer and process lexical item over the grammatical form. Cadierno used three groups in the study similar to those in VanPatten and Cadierno (1993). Sixty-one classroom learners of Spanish were randomly assigned into (1) control group, (2) TI group and (3) PI group.

In the Processing instruction group, Cadierno removed all adverbs of time, directing learners' attention only to the grammatical form or verb endings in Spanish preterit tense. By doing so, Cadierno helped learners to notice the form in preterit tense and 'to redirect learners' strategies in processing input data' (p. 179). Traditional instruction group on the other hand received grammar explanation of the target structure and was engaged in output-based practices. Control group did not receive any specific type of instruction.

Pretest and posttest measures consisted of interpretation and production tasks. Similarly, Cadierno found the greater effect of processing instruction over the other two groups on interpretation tasks and the positive effects of PI lasted over one month. As to the production tasks, there was no statistically significant difference between the performance of PI and TI groups and both maintained their scores one month after the end of the instructional period. As a result, Cadierno replicated and confirmed VanPattern and Cadierno's (1993) outcomes, which had revealed the beneficial effects of structured input to acquire the target grammatical structure even without making learners produce.

In another study, VanPatten and Sanz (1995) explored the acquisition of Spanish clitic object pronouns by comparing PI (n=27) with no-instruction group (n=17). The study did not involve traditional instruction group. The subject pool consisted of four classes of students learning Spanish as a foreign language at the University of Illinois. Two were assigned into processing instruction group; two into no-instruction group.

In the pretest and posttest were the tasks various. The participants received a sentence-level task, a video-narration task, and question-answer task, each of which involved both an oral and a written version.

The results revealed that PI group not only performed better on the oral versions of each task but also on the written versions than the control group, with better improvement particularly on written versions. With this study VanPatten and Sanz clearly showed that 'altering the processing strategies used by learners when they are processing input leads to a change in knowledge' (p. 183) and more importantly that this knowledge can be used in different kinds of production tasks.

Farley (2001; 2004a) compared PI and meaning-based output instruction (MOI) in order to reveal any effect of PI on the acquisition of Spanish subjunctive of doubt. In Farley (2001), the processing problem was the lexical preference principle. PI group received explicit information plus the same type of structured input activities as in the earlier research (e.g., VanPatten and Cadierno, 1993). In MOI group learners did not go into mechanical practices slowly moving from drills to communicative practices. Rather, they were exposed to "explicit information about the target item and structured output activities" (p. 291) directing learners' attention to the production of the target structure in its most salient position (in utterance initial position, for instance). Learners in MOI were

also encouraged to create the other half of incomplete sentences in a meaningful way by giving their opinions, beliefs or feelings about the given topic (affective activities).

In this study, Farley involved only 29 university students enrolled in a Spanish course. As one function of the pretest, those who scored 60% or better on either of the two tasks were removed from the study. After the subjects were randomly assigned into PI (N=17) and MOI (N=12) groups, experimentation lasted for two days which was followed by immediate posttest after one day and delayed posttest after one month.

The results of the study showed that both PI and MOI groups had positive gains on their interpretation and production levels of Spanish subjunctive of doubt. In addition, the effects of both instructions have proved to be durable over one month. However, PI group's progress was significantly better than that of MOI on the interpretation task. As for the production task, the improvement between both groups was equal, though. In another way, the influence of MOI was not higher than that of PI on the production task, although those in MOI received output based activities throughout the instructional stage. This study clearly confirmed that PI is more effective in helping learners comprehend Spanish subjunctive of doubt than MOI and that both treatment types are equally effective to produce the target grammatical structure.

In Farley (2004a), the lexical preference principle was the processing problem and regular, irregular and novel subjunctive forms of Spanish were the target structure. Farley (2004a) investigated whether learners of Spanish in PI and MOI groups interpret and produce the targeted structure differently. In this study, Farley recruited greater number of students (n=129) than the previous research (Farley, 2001), of whom although having to remove 67 because of the participants' background knowledge and another 12 because of

the participants' higher performance (above 60%) both on interpretation and production tasks, leaving the final *N* size 50 for the analyses.

All were made equal for both groups: a handout for explicit information, the number of activities, vocabulary and feedback. Differently from the earlier research (e.g., VanPatten and Cadierno, 1993; Farley, 2001), in this study Farley (2004a) found that 'PI does not appear to have been more beneficial to learners than the MOI group' (p.163) in order to interpret, process and produce Spanish subjunctive mood. In fact, both groups had similar gains at interpretation and production level. Although this result makes the findings of the earlier research (e.g., VanPatten and Cadierno, 1993; Farley, 2001) untenable, Farley (2004a) still supported PI and argued that it was because of the 'efficacy of MOI, and not an ineffective PI treatment' (p. 167) that both groups gained statistically similar scores on both tasks. Farley further admitted that learners in MOI group received more "incidental input" (p. 168) which may have caused them to be "more PI-like than intended." (p. 167). Finally, Farley stated that the mean scores of PI group from pretest to posttest more than doubled on the interpretation task and increased more than 21 times on the production task. As a result, Farley concludes that "the nature of the subjunctive" (p. 163) is one important factor having caused both PI and MOI to gain similar scores and that their equal performance in his study does not "obviate" (p. 168) or completely overshadow PI's confirmed success in the earlier research.

Collentine (1998) had also found similar outcomes for the acquisition of Spanish subjunctive. 54 learners were selected from second semester Spanish course and randomly assigned to PI group (n=18), output-oriented instruction group (n=18) and control group (n=18). All were native speakers of English. Pretest was conducted three days before the treatment and an immediate posttest after the treatment. There was no delayed post test.

The results showed that learners in two experimental groups performed better than those in control group, but still having equal effects on both interpretation and production task. As with Farley's (2004a) study, Collentine stated that the nature of the subjunctive does not lend enough support for the "generalizable" (p. 586) conclusions to the acquisition of the subjunctive and thus it is "premature" (p. 584) enough to be able to claim that PI is more effective than output-oriented instruction or the other way round especially when the target structure was the subjunctive. But, Collentine still found PI materials and tasks 'encouraging' (p. 584) enough for teachers and materials designers to use when teaching subjunctive.

Further support for the effect of PI came from Benati's (2001) study, which compared PI and output-based instruction on the acquisition of the Italian future tense by involving second semester beginner learners of Italian (N=39). In this study Benati examined "lexical preference principle" of input processing theory, thus gave precedence to morphological markers over temporal adverbs while preparing structured input activities in PI group. Benati did three pilot studies to find support for the wider validity of the results and after randomization conducted 'true experiment' (p. 103) to provide internal validity of the study, although the sample size was relatively small.

Three groups were formed. Two were experimental, one was control. To change the way learners process input and make correct form–meaning connections, PI group was exposed to grammar explanation and did structured input practices. To alter the way learners produce the target language, output-based instruction group received explanation of grammar rules and produced the target grammatical structure by doing written and oral practices (partly meaning-oriented). Control group received no instruction on the targeted

Italian future tense. Two material packs were prepared for the experiment and used for two consecutive instructional days (6 hours in total).

Pretest/posttests showed that PI group performed significantly better in the interpretation task compared to the other two groups. Although learners in the output-based instruction had better performance in the first posttest compared to the pretest, they were not so good at interpreting sentences in Italian future tense as those in PI. As to production test results, in both oral and written production tasks, performance of learners in PI group was found as equal as the performance of those in the output-based instruction. In short, overall results of the study indicated that the effects of PI and output-based instruction were well retained for the interpretation task and the two production tasks over three weeks. With this study, Benati confirmed the beneficial effects of PI in another language involving a different grammatical structure.

Cheng (2002) did research on PI and TI to 'extend previous research on the acquisition of Spanish clitic pronouns' (p. 308) to a different grammatical structure in Spanish (such as *ser* and *estar*). Cheng randomly divided three groups of learners (N=109) of a fourth-semester Spanish course into: (1) TI group, (2) PI group and (3) control group.

For the instructional groups, Cheng prepared two packets. TI pack involved explanations related to the usage of *ser* and *estar* first with examples and then with 'activities providing opportunities to produce these forms immediately after the explanation by moving from typical controlled mechanical drills to meaningful and communicative open-ended questions' (p. 311). PI pack on the other hand was prepared by following the guidelines of Lee and VanPatten (1995). PI pack 'deliberately directed the learner's attention to functions of *ser* and *estar'* (p. 311) with referentially and affectively-oriented activities or comprehension based exercises having learners get meaning from the

target form rather than having them rely on their default strategies during the act of comprehension. In short, learners in PI never produced.

Three tasks (an oral interpretation task at the sentence level, a sentence production task, and a guided composition) were used in pretest/posttests. The results showed 'similar superior effects for processing and traditional instruction in comparison to results for the control group' (p. 315). However, for the difference between PI and TI groups, the measurement tasks showed greater improvement of PI not only on interpretation but also on production tasks; while TI improved only on sentence production and guided composition task.

VanPatten and Fernandez (2004) conducted a study to find out any long-term effects of PI on correct processing Spanish direct clitic object pronouns (e.g., First-Noun principle). The presence of delayed posttest (after eight months) makes the study first in the literature to investigate whether the effects of PI fade over time. VanPatten and Fernandez recruited only PI group without any other instructional or control group, which was its clear limitation, though. The initial number of participants was 218, but it declined to 45 at the end either because of attritions or because of treatment overlap. PI group received explicit grammar explanation plus structured input activities. They were measured by pretest, immediate posttest and delayed posttest. The results found supportive effect for the long term effect of PI not only on interpretation but also production task. It showed that learners improved significantly from pretest to immediate and delayed posttest. Although learners' performance decreased from immediate to delayed posttest, their performance was still better than they were in the pretest, thus revealing that the effect of PI is 'durable' (p. 290) even after eight months.

In another study, Benati (2005) investigated the effects of PI, TI and MOI on the acquisition of the English simple past tense by learners of secondary schools randomly assigned as PI (N=15), TI (N=15), MOI (N=17) in China and PI (N=10), TI (N=10), MOI (N=10) in Greece. The processing problem was the First-Noun principle. Benati aimed to explore whether Chinese learners would find acquiring the English simple past tense marker (-ed) difficult to process as Chinese is lack of verb morphology and/or whether Greece learners would find it easier as Greece does have similar structure.

Three instructional groups commonly received explicit explanation about the target grammatical feature but contents of instructional packets were different. PI group received structured input activities in which temporal adverbs were eliminated so that learners could notice and pay attention only to the verb morphology to refer to its function (pastness). The participants were exposed to comprehension practices, not to any production activities. In TI group learners were encouraged to produce the target linguistic feature as a mixture of mechanical and communicative practices. MOI group did not involve any mechanical practices but received only meaning based output practice. Learners 'had to respond to the content of the output' (p. 79).

The results of interpretation tasks in pretest and posttest measures revealed that PI is better at 'altering learners' processing default strategy' (p. 83) than TI and MOI groups. Especially it is interesting that MOI did not make any improvement in the interpretation task. Benati views the main reason as 'the nature of the targeted linguistic feature and the difficulty of this feature particularly for Chinese' (p. 84). With regard to the production, from pretest to post-test PI, TI and MOI groups performed equally well in sentence level production task. It was an interesting outcome notably for PI group, who had not received any production-based practice throughout the instructional stage. Benati with this study

strongly advised ‘input practice should precede output practice’ (p. 84) in language teaching.

This research not only confirmed the findings of previous research (VanPatten and Cadierno, 1993; Cadierno, 1995; VanPatten and Sanz, 1995; Farley, 2001, Benati, 2001) but also showed PI was better than both TI and MOI irrespective of whether they were involved in mechanical or communicative output practice. Benati claims that this is also true for participants coming from different language backgrounds such as Chinese and Greece, especially that it is more difficult for Chinese learners. However, since the study did not perform another delayed posttest, it is not suffice to generalize the effects of the research over time. Benati himself admits the lack of the second posttest as an important limitation, suggesting that the results ‘could have been different if delayed post-tests were included.’ (p. 85) Furthermore, the number of the participants was not high enough to make much more generalization, thus it requires further research with large number of participants.

Qin (2008) did experimental research on acquisition of the English passive voice by comparing PI and Dictogloss (DG) tasks, as an output-oriented focus-on-form type of instruction. In the study, Qin recruited two intact classes of the seventh-grade beginning-EFL learners (n=110) in China and randomly assigned them into two instructional groups: PI group (n=55) and DG task group (n=55). Firstly, both groups received the same metalinguistic (grammatical) explanation. Then, while learners in PI group were first made aware of their default processing strategy related to passive voice (the First noun principle) and then were exposed to structured input activities, those in DG task group were involved in production-based dictogloss activities mainly in four steps:

i. introducing the topic and distribution of copies

ii. forming pairs to understand the text paying attention to the target structure

iii. reconstructing the text

iv. comparison of the reconstructed text to the original one

Pretest and immediate posttest results indicated that learners in PI group outperformed those in DG group on the interpretation task but both performed equally well on the production task. This outcome corroborated the earlier research (e.g. VanPatten and Cadierno, 1993). The delayed posttest results, however, revealed that PI and DG group achieved equally well not only on interpretation but also on production tasks, which meant that PI's superiority on the interpretation task lost over time. Nevertheless, both groups were able to retain their acquired knowledge of the passives in English over time; thereby Qin suggested both types of instructions as 'effective pedagogical tools' (p. 61) or both showed "benefits" (p. 76) in helping beginning-EFL learners to interpret, process and produce the target grammatical form.

VanPatten and his colleagues reworked Allen's (2000) PI materials, Keating and Farley's (2008) meaning-based output instruction (MOI) materials and Qin's (2008) dictogloss (DG) tasks and found some flaws within them. Thus, VanPatten and Wong (2004), VanPatten, Farmer and Clardy (2009) and VanPatten, Inclezan, Salazar and Farley (2009) conducted partial replications to give response to Allen (2000; see details in the following section), Keating and Farley (2008; see details in the following section) and Qin (2008).

First, VanPatten and Wong (2004) pointed to some flaws in the instructional treatments Allen (2000) developed for PI group to acquire the French causative "*faire"* (such as violation of lexical-semantics principle or event probabilities principle). Put another way, VanPatten and Wong claimed that some activities in Allen's study

overlapped, not keeping strict "fidelity" (p. 101) to the materials in the original research conducted by VanPatten and Cadierno (1993). As a result, VanPatten and Wong did "replication" (p. 99) targeting the same processing problem (the First noun principle) and structure (the French causative).

VanPatten and Wong recruited undergraduate learners from two universities and the *N* sizes at the beginning were as: PI Univeristy1 n=18, PI Univeristy2 n=11; TI Univeristy1 n=11, TI Univeristy2=9; Control Univeristy1 n=14, Control Univeristy2 n=14. Throughout the instructional stage, those in PI group were first given explicit grammar explanation plus strategy training and then were embedded in doing structured input activities. In TI group learners were first given similar grammar explanation but without any strategy training and then were exposed to a series of activities moving from mechanical, to meaningful and to communicative practice. Control group had no instruction.

The results revealed that there was a progress from pretest to posttest for both PI and TI on the interpretation task, but still PI group showed greater performance than TI group. So VanPatten and Wong on the one hand correctly replicated and confirmed the earlier findings of VanPatten and Cadierno (1993) but refuted those of Allen (2000) on the other. As for the production, VanPatten and Wong found an equal effect between two experimental groups as in the earlier original research (VanPatten and Cadierno, 1993).

Nevertheless, VanPatten and Wong's study had some weaknesses to consider carefully. For instance, those at University1 could not be given the second delayed posttest because of "scheduling conflicts" (p. 110) and the *N* size at University2 (P=8; TI=6; Control=11) at the end was too small to do statistical analysis to measure the longer-term

effects of the findings, which caused the researchers to remove the question related to long-term effect.

Furthermore, VanPatten, Farmer and Clardy (2009) investigated clitic direct object pronouns in Spanish and flexible word order, comparing the extent to which PI and MOI groups showed performance both on interpretation and production task. Their impetus came from Keating and Farley's (2008) material packet prepared for the MOI group having involved more 'PI-like activities' (VanPatten et al. 2009, p. 120) and thus they performed a partial replication. The processing problem was the First noun principle. The final *N* size was 108, distributed as follows: Control (n = 43), PI (n = 38), and MOI (n = 37). After receiving explicit explanations of the target structure, while PI group did structured input activities, MOI group did structured output activities in which learners had to produce sentences using object pronouns to convey meaning.

The results revealed that on the interpretation task all groups improved over time, but learners in PI group consistently outperformed both those in MOI group and in control group. On the sentence-level production task, all groups improved over time. Both experimental groups had higher scores than the control group. However, VanPatten et al. did not find superior effect of MOI over PI as in Keating and Farley (2008) but equal effect of PI and MOI as in the earlier research (e.g. VanPatten and Cadierno, 1993). With this study, VanPatten et al. corroborated greater effect of PI on the interpretation of Spanish direct object pronouns than MOI. Although the learners in PI did never produce the target structure, they were able to produce as equally as those in MOI, which adds an additional advantage of PI over MOI. VanPatten et al. (p.125) believe that the difference between their study and Kating and Farley (2008) was "due to the operationalization of MOI."

Finally, VanPatten, Inclezan, Salazar and Farley (2009) conducted another partial replication to compare PI and Dictogloss (DG) activities as another type of production based instruction. The impetus for their research came from the conflicting results that Qin (2008) found in the original research of VanPatten and Cadierno (1993) especially in the delayed posttest. Thus, VanPatten et al. (2009) partially replicated Qin's (2008) study and identified several flaws in it. The target structure was Spanish direct object pronouns. PI group (N= 38) received explicit information with strategy training about Spanish word order plus structured input activities; whereas DG group (N= 27) received the same explicit information but without strategy training and then did the same four steps in Qin's (2008) study. Control group (N= 43) did not receive any instruction of the targeted structure. The analysis of posttests showed that all groups made greater gains on aural interpretation, sentence level production and reconstruction task. As for the differences, PI outperformed both DG and control group on interpretation task (PI>DG and Control). In addition, PI had slight advantage over DG group on sentence level production task, though their performance seemed equal (PI=DG). On the reconstruction task, both PI and DG group performed equally well (PI=DG) and better than control group, although their initial gains disappeared in the delayed posttest.

Much more recently, VanPatten and Uludag (2011) researched the effect of PI by distributing 38 Turkish learners of English into PI (N=22) and Control (N=16) group. The processing problem was the first noun principle and the target structure was the passive voice in English. Learners in PI first received explicit explanation along with examples of word order in passive structures, which was then followed by nine structured input activities.

Pre/posttests involved an interpretation task, a sentence-level production task, and a passage reconstruction task. On the interpretation task, PI group outperformed the control in all the tests. In addition, PI group was able to sustain its performance over time in the delayed posttest. This outcome was similar in the other two production measures although PI group was not involved into any production based instruction. VanPatten and Uludag (2011, p. 52) at the end concluded that 'PI, as a classroom treatment for focusing on form (not skill), is sufficient for classroom learning environments' and claimed that teachers or curriculum designers can use PI in their language classrooms for a "real change" (p. 52).

Studies Comparing Processing Instruction with Explicit Information (PI+EI) and without Explicit Information (PI–EI)

Upon finding out superior effects of PI in comparison to TI and MOI on interpretation and equal effects on production tasks, still good despite the paucity of production based activities in PI, the course of research has started to change, asking whether this superiority of PI comes from structured input (SI) activities per se or from explicit information (EI) given at the beginning in the handout for PI groups. As some of the earlier research (e.g., Schmidt, 1995; Alanen, 1995; Robinson, 1995) had already explored the beneficial effect of EI on teaching different grammatical structures, VanPatten and Oikkenon (1996), in another original research, first time set out to 'determine whether or not explicit information given to learners receiving processing instruction is responsible for the beneficial effects of instruction' (p. 495). They therefore divided 59 subjects into three groups receiving: 1) PI (EI plus SI activities) (N=17), 2) SI activities only (N=20) and 3) EI only (N=22). Processing problem was the First-Noun principle and the target structure was Spanish clitic object pronouns.

Pre to posttest analysis revealed that both PI and SI group performed equally well (PI=SI) and better than EI group in the interpretation task. That is, EI did not make any significant gains; whereas both PI and SI groups made equal gains, thereby showing that it is not EI given in processing instruction but SI activities that help learners have optimal processing strategies in acquiring Spanish clitic object pronouns. As for the production task, the analysis further showed that all the three groups equally increased their production scores from pretest to posttest. However, the gains of PI were more than EI (PI>EI) but not more than SI (PI=SI). There was no significant difference between SI and EI (SI=EI). This result also confirmed that both PI and SI activity groups made equal gains on the production task, thus showing EI is not necessary for PI as it is 'the effect of the structured input activities and not the explicit information (explanation) provided to learners' (p. 495) that leads to change in learners' processing mechanisms and developing system.

After almost a decade, this study was started to be replicated by a large number of researchers comparing PI (explicit information plus structured input) with SI only group on different languages and structures, for instance

- The use of *de* with *avoir* in French (Wong, 2004b)
- Italian future tense (Benati, 2004a)
- Gender agreement in Italian (Benati, 2004b)
- Spanish word order and clitics direct object pronouns (Sanz, 2004)
- Spanish word order and clitics direct object pronouns (Sanz and Morgan-Short, 2004)
- Spanish subjunctive (Farley, 2004b)

- Spanish word order and clitics direct object pronouns (Exp.1) and Spanish subjunctive (Exp.2) (Fernandez, 2008)
- German word order and accusative case marking on definite articles (Culman, Henry and VanPatten, 2009)
- German word order and accusative case marking on definite articles (Henry, Culman and VanPatten, 2009)
- Spanish word order and clitics direct object pronouns (VanPatten and Borst, 2012)
- Spanish word order and clitics direct object pronouns – Exp. 1 (VanPatten, Collopy, Price, Borst and Qualin, 2013)
- German word order and accusative case marking on definite articles – Exp. 2 (VanPatten et al., 2013)
- Russian nominative/accusative case marking on nouns – Exp. 3 (VanPatten et al., 2013)
- French causative *faire* – Exp. 4 (VanPatten et al., 2013)

Wong (2004b claimed that the structure is important in doing research and that the particular structure in VanPatten and Oikkenon's study has 'relatively high communicative value' (p. 192) and thus that SI might have played a more causative role on correcting the processing problem. For this reason, as a different target structure, Wong used the verb "*avoir*" in French meaning "to have" but within its negative form by using "*de*" before nouns beginning with a consonant or "*d*" before nouns beginning with a vowel. The processing problem was Lexical preference principle.

Wong compared PI group (N=26), SI only (N=25), EI only (N=22) and control group (N=21). Three separate packets were prepared for the groups. While PI group received first explicit grammar explanation and then structured input activities, SI group did not receive

explicit grammar presentation, instead practiced SI activities. EI group received a handout only for the explanation without practice activities. Control group did not receive any instruction on the target structure.

Posttest analysis confirmed the results of VanPatten and Oikkenon's study. The interpretation task scores for PI and SI group were significantly better than those of EI and control group and there was no significant difference between PI and SI (PI=SI). The production task scores similarly found equal effect between PI and SI (PI=SI), both having significantly greater gains than control group but different gains than EI group. That is, while PI performed much better than EI (PI>EI), SI performed as well as EI group (SI=EI), which did not have a significant difference from the control group. As a result, these outcomes supported the original research of VanPatten and Oikkenon (1996), claiming it is SI activity that help learners change their processing strategy not only by using the First noun principle in correcting Spanish clitic object pronoun but also the Lexical preference principle in establishing correct form-meaning connection in another language, French.

Benati (2004a) compared PI (N= 14), SI (N=12) and EI (N= 12) by involving 38 undergraduate learners of Italian. The target structure was future tense in Italian. While PI group received a packet first starting with a handout explaining Italian future tense form and strategy training on possible default processing problem for the learners and with SI activities at the end, SI group received the same type and amount of activities without explicit grammar explanation. EI group received the same type and amount of explicit grammar explanation but without any structured input practice. The pre/posttests analysis showed that PI and SI were not significantly different from each other (PI=SI) and that both better than EI (PI and SI>EI) not only in aural interpretation but also in written production task.

In another study, Benati (2004b) looked into the effect of PI (N=10), SI (N=11) and EI (N=10) to teach gender agreement to the undergraduate learners of Italian. The instructional treatment and procedure was similar to Benati (2004a). The participants were assessed through aural interpretation and two production tasks (a gap-fill test and a picture-based oral test). Only one immediate posttest was conducted, the results of which were exactly the same as in Benati (2004a), thus confirming one more time that SI alone helps learners receive input, process, intake and then transfer it into the developing system. This, according to Benati (2004b), provides structured input alone a "privileged position" (p. 78) over processing instruction with explicit information.

Sanz (2004) also researched the effect of SI activities on the acquisition of Spanish clitics. Sanz for the first time prepared computer based materials and used them to find out any difference between implicit and explicit feedback. There were two groups of learners, both of which received SI activities without any explicit explanation of Spanish clitics prior to the treatment. But feedback was provided. Group 1 (N=12) received explicit feedback. It was immediate, personalized, provided only when needed and focused on the target structure. Group 2 (N=16) received implicit feedback in a way that the computer responded "OK" for the correct response; "Sorry, try again" for the incorrect response. The analysis showed that both aural interpretation and production (sentence completion and video-retelling) task scores significantly increased from pre to posttest, but having no significant interaction for the Groups. That is, SI activities helped learners make gains not only to interpret but also to produce the target form correctly irrespective of whether the feedback was explicit or implicit. As a result, Sanz claimed that 'it is practice in decoding structured input rather than provision of explicit evidence that is responsible for the

effectiveness of PI" (p. 254) and thus despite all its limitations, supported the results of VanPatten and Oikkenon's (1996) study.

In addition, Sanz and Morgan-Short (2004) investigated the effects of computer delivered explicit information and explicit feedback on the acquisition of Spanish word order by comparing four groups +/– Explanation and +–Explicit Feedback. For the purpose of the study, Sanz and Morgan-Short 'kept structured input activities constant' (p. 53) for all the four groups but manipulated the presence or absence of explicit explanation prior to SI activities and feedback during task completion. In total 69 learners participated in the study. The [+E, +F] group (N=21) was exposed to explicit rule presentation and strategy training prior to activities and explicit negative feedback, which was "immediate…personalized and provided only when needed" (p .55). The [+E, –F] group (N=15) received explicit explanation without feedback; the [–E, +F] group (N=13) received only explicit negative feedback; and the [–E, –F] group (N=20) received neither explicit information nor feedback except for structured input activities.

The participants were assessed by aural interpretation and production (sentence completion and video-retelling) tasks in the pre/posttest. The analysis revealed that there was a significant main effect for Time for all the four groups, meaning that their pretest scores increased in the posttest after instructions. However, the analysis did not yield a significant difference among the groups for the interpretation task and production tasks, once more concretizing that it is SI activity per se, not the presence or absence of explicit grammar explanation or feedback, that has an impact on whether learners are able to process Spanish word order, interpret and produce it.

Farley (2004b) recruited 54 learners of Spanish and assigned them as PI and SI group. The target structure was Spanish subjunctive. PI received first explicit grammar

explanation which was followed by structured input activities. SI practiced the same activities without explicit information. The results were different from the earlier research, though (e.g., VanPatten and Oikkenon, 1996). The analysis of posttests showed that both groups improved from pretest to posttest and additionally kept their improvement through the second posttest. However, further analysis showed that PI made greater gains than SI group both in aural interpretation and sentence level production task (PI>SI). This did not corroborate the previous studies. Farley attested this difference to the nature of the target structure Spanish subjunctive, which is 'not readily transparent' (p. 241) or is 'not readily understandable or clear to learners' (p. 241) in contextualized language and concluded that EI in PI 'may be beneficial in PI for some features of language' (p. 242). Farley also called for researchers to 'deliver all instructions via computer that would also track response accuracies over time' (p. 242).

Maybe to respond to Farley's (2004b) call for online research and not to conduct similar offline research (e.g., VanPatten and Oikkenon, 1996; Benati, 2004a&b), Fernandez (2008) found a new trajectory to investigate the effects of PI (both EI and SI) and SI only activities, using "E-prime", a computer program designed to measure learners' a) *trials to criterion* which is 'the number of SI items that participants completed until they reached criterion' (p. 289), b) *response time* (the period from the beginning of a stimulus to the response of the participant), c) *accuracy* (the number of correct response of the learners after reaching the criterion). The study compared the role of PI (N=42) with that of SI only (N=42) on the acquisition of Spanish word order (First Noun principle) and Spanish subjunctive (Lexical preference principle) in two separate experiments. The instructions and assessment materials appeared on computer screen for both groups. The procedure in experiment 1(Spanish word order) was the same as in experiment 2 (Spanish subjunctive).

However, the results in Experiment 1 and 2 were contrary to each other. In experiment 1, both PI and SI only groups reached almost the same number of criterion and accuracy and responded similarly on the acquisition of Spanish word order (PI=SI). However, in experiment 2 this time there was a statistically significant difference between PI and SI only group, which was similar to Farley (2004b). That is, PI reached significant and higher number of criterion, accuracy and less response time than SI only group on the acquisition of Spanish subjunctive (PI>SI). Put it simply, 'the PI group processed subjunctive forms sooner and faster than the SI group' (p. 277), meaning that 'EI was beneficial only for the correct processing of the subjunctive' (p. 295). Using a different online tool (E-prime), this study on the one hand confirmed the results of the earlier research, stating that PI and SI both help learners perform equally well when processing Spanish word order (e.g., VanPatten and Oikkenon, 1996) but on the other hand disconfirmed when processing Spanish subjunctive. In conclusion, Fernandez found PI and SI had different impacts because of the target structures involved and thus concluded that 'the benefits of explicit information might depend on the nature of the task and the processing problem' (p. 277).

Upon Fernandez's finding, notably about Spanish word order (PI=SI) in experiment 1, Culman et al. (2009) aimed to look into any role of explicit information within processing instruction (PI) and SI only on the acquisition of German OVS sentence structure and the marking of accusative case on the definite article (German word order). In both studies, the processing problem was the same (e.g., First-Noun Principle). Additionally, Culman et al. researched whether the level of learner makes a difference. Thus, they involved 59 learners at different levels and divided them into four groups: First semester PI (N=16); SI (N=15); Third semester PI (N=14); SI (N=14). In terms of the

analysis, Culman et al. did not look into response time and accuracy as a large number of participants did not reach criterion; thus just focused on "trials to criterion", which 'consisted of correctly answering three target OVS items and at least one distractor SVO item in a row' (p. 25).

The results showed that learners in PI group reached higher number of criterion than those in SI only group (PI>SI), thereby disconfirming the results of Fernandez (2008) having explored that PI and SI were equal. Culman et al. attests the greater performance of PI group to the EI as a variable which 'speeds up the processes underlying acquisition' (p. 28) when the target is OVS and German case markings. They pointed for the difference between Fernandez and their study to the 'nature and complexity of the target structure.' (p. 28) Therefore, they suggest that explicit information in PI is at least "beneficial" (p. 30) if not always necessary even when the processing problem was kept constant between languages. As for the levels of the learners, there was no significant difference between them.

Henry et al. (2009) did another partial replication of Culman et al. (2009) to find out more on the effects of EI in instructed SLA and to give a partial response to Fernandez (2008). The study consisted of 38 third-semester learners of German, who were divided into PI (N=19) and SI (N=19) for the acquisition of German accusative case and word order (e.g., First-Noun Principle). The participants received instructions via computer and used *E-Prime* as a measurement tool. As in the Culman et al. (2009), a large number of the participants did not reach a sufficient criterion, thus similarly they used only trials to criterion scores of learners to compare the groups. That is, reaction time or accuracy was not analyzed.

The main results showed that significantly higher number of participants in PI group reached criterion when compared with SI only group (PI>SI); consequently they confirmed once more "facilitative effect" (p. 571) of EI given within processing instruction for L2 German learners. Henry et al. state that the results both in Culman et al. (2009) and their present one (regarding German word order) were quite similar to those that Fernandez (2008) had explored for Spanish subjunctive and lexical preference principle, not for Spanish word order and First Noun principle. Hence, after two replications of Frenandez's study, they rightly claimed that the main reason 'may lie in the intersection of the processing problem and the particular structure involved' (p. 571). Bearing this in mind, they suggested more studies be conducted 'on the role of EI not just in processing instruction but in all formal interventions' (p. 560).

For the rationale behind their research, VanPatten and Borst (2012) claimed that Henry at al.'s study is 'not a true replication' (p. 273) of Fernández's study as both studies examined word order in different languages (German and Spanish), and thus probably found different outcomes for the presence or absence of EI within processing instruction. For this reason, VanPatten and Borst (2012) updated their replication this time by involving exactly the same processing problem and language (e.g., Spanish word order and First-Noun Principle) as in Fernandez (2008). Forty-two learners of Spanish participated in the study, receiving PI (N=23) and SI only (N=19) using a computer program *E-prime.* The procedure was similar to the previous studies. Responses were tracked and trials to criterion used for the measurement. The study further investigated whether aptitude played significant factor and therefore to measure their aptitude learners were assessed by grammatical sensitivity and spelling tests of the Modern Language Aptitude Test (MLAT).

The results first of all revealed that aptitude did not play a significant factor for both groups. As for the difference between PI and SI only groups, both made equal gains in processing Spanish word order and clitic object pronouns (PI=SI), which not only corroborated Experiment 1 in Fernandez (2008) but also VanPatten and Oikkenon (1996) having found PI equal to SI only. Nevertheless one should bear in mind that EI within PI was also found facilitative or superior by other studies in a different language German (e.g., Culman et al., 2009; Henry et al., 2009). Hence, VanPatten and Borst attach importance to EI within PI and still find it "open" (p. 280) to conduct research, particularly in different languages such as German, Russian and French.

VanPatten et al. (2013) aimed to replicate the original research of VanPatten and Oikkenon (1996), Henry et al. (2009), Culman et al. (2009) and Fernandez (2008), the first online study which set out to investigate the effects of PI and SI only. What made Fernandez's outcome different is that Fernandez found equal effect between PI and SI not on Spanish subjunctive but on Spanish word order. The same effect was found in German word order by Culman et al. and Henry et al. (2009). To replicate them all, VanPatten et al. (2013) involved four language learner groups (Spanish, German, Russian, French). All groups were made equal as:

i. Four groups were similarly formed by PI and SI only.
ii. Explicit information was given prior to the structured input activities in PI group.
iii. Processing problem was the First-Noun principle, although the target structure varied.
iv. All were instructed by computer via SuperLab 4.0 and assessed using by *E-prime.*
v. Trials-to-criterion (how long it took participants to begin processing correctly) was used as a measure.

vi. All received MLAT to find out any correlation between trials to criterion and grammatical sensitivity.

In the Experiment 1, forty-two third-semester college-level learners of Spanish were involved and divided into PI (N=23) and SI only (N=19). The target structure was Spanish clitic object pronouns. The results were exactly the same as in VanPatten and Borst (2012): EI in PI group did not play a significant role with Spanish word order and clitic object pronouns (PI=SI). That is, structured input itself was sufficient to alter learners' default processing problems, thus corroborating VanPaten and Oikkenon (1996) and disconfirming Farley (2004b). As for the correlation, there did not seem to be a significant relationship between the scores of groups and grammatical sensitivity.

In the Experiment 2, VanPatten et al. recruited forty-six third-semester college-level learners of German and divided into PI (N=24) and SI only (N=22). The target structure was German word order and nominative/accusative case marking on definite articles. The results showed greater effect for PI than SI only (PI>SI), meaning that EI played an important role in PI to 'speed up the process' (p. 516). It was similar outcome found in Henry et al. (2009) which also pointed to the role of EI in PI for the German accusative case marking on definite articles, although VanPatten et al. (2013) argued that the SI group in their study would have been able to catch up to the PI group in the end if a few more items had been used. As for the correlation, a significant correlation between grammatical sensitivity and trials-to-criterion was found only for PI group which received EI.

In the Experiment 3, VanPatten et al. recruited forty-four third-semester college-level learners of Russian and divided into PI (N=23) and SI only (N=21). The target structure was nominative/accusative case marking on nouns. The results were similar to those found in Experiment 1, concluding that there was no significant role of EI in PI compared to SI

only (PI=SI). The relationship between grammatical sensitivity and trials-to-criterion did not surface.

In the Experiment 4, forty-eight third-semester college-level learners of French were involved and divided into PI (N=23) and SI only (N=25). The target structure was causative "*faire*". The results were similar to those in experiment 2 (German). EI in PI group played a significant role in processing the French causative when compared with SI only group (PI>SI). But there was no significant relationship between grammatical sensitivity and trials to criterion.

To sum up, VanPatten et al. (2013) with this cross-linguistic study showed that EI may be beneficial to process some of the structures (German and French) but not others, still claiming that EI is not necessary in processing instruction. They also furthered the course of the research and argued that grammatical sensitivity does not have a significant relationship with trials to criterion except for those in PI German group.

Studies Finding Support for Production-Based Instruction

Not all studies in the literature did find supportive or equal findings to those reviewed related to PI. Some found counterintuitive results to further consider, for instance

- Spanish direct object pronouns and the conditional tense (Dekeyser and Sokalski, 1996)
- Spanish direct object pronouns (Salaberry, 1997; Morgan-Short and Bowden, 2006; Keating and Farley, 2008)
- Japanese honorifics (keigo) (Nagata, 1998)
- French causative instruction (Allen, 2000)
- French direct object pronouns (Erlam, 2003)

- Spanish anticausative clitic *se* (Toth, 2006)
- English present subjunctive (Farley and Aslan, 2012)

Firstly, DeKeyser and Sokalski (1996) replicated the original study of VanPatten and Cadierno (1993). Their study involved 82 first-year Spanish as a second language learners, who were later assigned into an input, an output and a control group. Both experimental groups first of all received the same explicit explanation of Spanish object pronouns and the conditional tense in Spanish. Later, the groups practiced activities specifically prepared for them beginning with a few mechanical exercises and then progressing to meaningful and communicative activities: it was input-based for the input group; production-based for the output group.

Tests included a comprehension task and a translation/fill in the blank production task. The results for object pronouns revealed that on comprehension task the input group outperformed the output group, who on production task performed better than the input group. However, both could not maintain their greater performance over time. For the conditional, learners in the output group gained an overall advantage over those in the input group not only on comprehension but also on production task, although the output group could not maintain this superiority in the long run. DeKeyser and Sokalski argued that their findings were consistent with the premises of skills acquisition theory. In other words, 'input practice is better for comprehension skills, and output practice for production skills' (p. 613), showing that previous studies supporting processing instruction over output based instruction do not remain entirely true because they concluded that it was 'morphosyntactic complexity of the structure in question as well as on the delay between practice and testing' (p. 613) that determine the relative effectiveness of one type of

instruction over another. In short, Dekeyser and Sokalski (1996) found that PI is not superior to output-based instruction.

There followed some criticisms against Dekeyser and Sokalski. For instance, the processing problem and strategy were not identified, which was later criticized by Wong (2004a) stating that if practice activities were not designed in a way to push learners to circumvent any processing problem, the activities then would not be named as SI activities and 'would not necessarily have the same effect that SI activities would' (Wong, 2004a, p. 56).

Similarly, Salaberry (1997) aimed to extend previous research on the relative effectiveness of input and output processing. The target structure was Spanish clitic object pronouns as in the previous studies because it is the grammatical structure that Spanish L2 learners have default strategies in processing and converting it into their developing system.

In the experimental study, Salaberry divided 33 learners into groups receiving a) input practice, b) output practice and c) a control group having no practice. Throughout the instructional stage, the input group took comprehension or input-based activities; the output group was involved in production-based activities. The pretest/posttests involved a comprehension task, a production task, and a written narrative of one-minute silent video.

The results indicated that compared to the control group both instructional groups had significantly increased their scores on comprehension task. However, they did not produce a significant effect on production and narration task. That is, the input and the output group had similar scores on production tasks. Salaberry therefore suggested that output practices are pedagogically effective at the internalization of grammatical structures as well as processing instruction.

Nagata (1998) investigated whether computer assisted comprehension based practice or production based practice has more effective on the acquisition of Japanese honorifics. The study involved 14 students only in a second-semester Japanese course, whose native language was English and were randomly assigned into two an input and output group.

Specifically designed two computer programs were used for the research in order to reduce the interaction effect in the class and thus incidental input. The first program was an input-focused designed first to provide explicit grammar explanation and then comprehension-based activities; the other was an output-focused program beginning first with the same explicit grammar explanation but followed by production-based exercises. Both groups took the instructional programs for four one-hour computer sessions over the course of two weeks.

The scores of learners in achievement test two days after the treatment and retention test one month later showed that learners receiving output-focused practice improved their production skills in the acquisition of Japanese honorifics more than those in input-focused group. As for the comprehension levels, the two groups were equally effective for the comprehension of the target structure. Nagata with this study supported Swain's output hypothesis and suggested that 'there are roles for output in second language acquisition that are independent of comprehensible input' (p. 33).

The studies above mentioned are not without some weaknesses, though. Sanz and VanPatten (1998) particularly responded to Salaberry about input processing, processing instruction, and the nature of replication tasks. Sanz and VanPatten notably pointed to the guidelines necessary to design processing instruction material, which neither Dekeyser and Sokalski (1996) nor Salaberry (1997) strictly followed in their studies. In other words, they

had not performed a real comparative study of processing instruction with output based instruction. The tasks for instance violated the "sentence location principle". Stated simply, a number of utterances were located in sentence medial position where learners are least likely to process. Collentine's (1998) study is one of those sample studies which Farley (2001) criticized similarly. In short, the counterintuitive results of such studies should be carefully evaluated as to the relative effectiveness of processing instruction and output based instruction.

Allen (2000) carried out a study to examine the generalizability of VanPatten and Cadierno (1993). For the experimental research Allen recruited 179 high school students and assigned them into three groups a) PI (N=64), b) TI (N=61) and c) control group (N=54). Allen's aim was to measure 'the relative effect of two types of explicit grammar instruction on learners' ability to interpret and produce sentences containing the French causative instruction' (p. 69). The processing problem was the first noun principle, on which for both PI and TI group Allen prepared materials and balanced them in terms of vocabulary, total amount of explicit grammar explanation and total number of activities.

One pretest and three posttests were given to measure the improvement of the instructional groups, all of which similarly consisted of an interpretation task, a distracter task, and a production task. The results of the interpretation task revealed that both PI and TI groups were able to change their default processing problem in French causative and process it into their developing system successfully. This finding showed inconsistency with VanPatten and Cadierno (1993) having found PI group's superiority over TI group on the interpretation task. More importantly, Allen's findings showed that TI group was able to produce better than PI on the production task, which also disconfirmed VanPatten and Cadierno (1993) having found equal performance level between PI and TI. With all these

results, Allen argued that VanPatten and Cadierno's (1993) results are "not generalizable" (p. 80) to the French causative and that PI could be good "only for certain grammatical structures" (p. 80).

Erlam (2003) reviewed some of the studies which contrasted the effectiveness of structured-input instruction with output-based instruction. Erlam then did an experimental study comparing the effect of the same instructional treatments on comprehension and production of direct object pronouns in French as L2. For this purpose, Erlam involved 70 students, randomly assigned into structured-input (N=23), output-based instruction (N=21) and control group (N=26).

The experimental groups equally received a three-hour instruction in a week. Throughout the instruction, learners in the structured-input group were first exposed to explicit grammar explanation about the morphological features of direct object pronouns and then practiced the same structured input activities as in VanPatten and Cadierno (1993). As for the output-based instructional group, learners first received similar explicit explanation of where the direct object pronouns are placed within the sentence, which was then followed by form-focused activities to be able to produce the structure in different activities such as rewriting sentences, replacing the direct object noun with its correct pronoun, filling gaps, etc. In short, while the input group did not produce the target structure, the output group did.

Pre/posttests consisted of listening comprehension, reading comprehension, written production, and oral production tasks. The results showed that both structured-input group and output-based instruction group achieved significant progress compared to the control group. As for the difference between the instructional groups, the output group did better than the structured-input group on comprehension tests, which was contrary to the previous

studies in the literature (e.g., VanPatten and Cadierno, 1993). The production tests revealed that the output group achieved more than the structured-input group on all measures. This was also contrary to the previous studies. With this study Erlam maintained that the structured-input instruction does not have greater impact on the acquisition of French direct object pronouns than output-based instruction, which had in fact greater gains than the former. Although the study also values 'the role of input in language learning' (p. 577), it states that 'output-based instruction may be more effective when language measures require a pressured response' (p. 579).

In another study, Morgan-Short and Bowden (2006) compared the relative effects of PI and meaningful-based output instruction (MOBI). The target structure was direct object pronoun in Spanish. The total number of learners was 51 in the initial pool, which was lowered to 45 in the final pool, because those who were scoring 33% or greater either on interpretation or production tasks in the pretest were removed. Finally as usual the *N* size was assigned into three groups; such as PI, MOBI and control.

Both experimental groups received the same explicit grammatical explanation followed by different packs for PI and MOBI. Pretest/posttests results showed that both groups significantly improved their interpretation and production scores from pretest to immediate posttest and delayed posttest much more than the control group. Furthermore, the effects of PI remained unchanged from posttest to delayed posttest, whereas those of MOBI reduced, although still higher than pretest scores. Although both groups had a significant equal effect on the interpretation task, the production task in the immediate posttest showed that "MOBI outperformed both control and PI; whereas PI did not outperform control." (p. 53) That is, output-based instruction had a greater effect than PI only on the first posttest. On the second posttest (one week later), both groups performed

equally well. Morgan-Short and Bowden (2006, p. 59) argued that 'MOBI can, like PI, lead to linguistic development, at least when practice is meaningful and leads learners to make form-meaning connections' and still stated that they supported 'the use of meaningful output practice as well as meaningful input-based practice in the L2 classroom environment' (p. 59).

Toth (2006) compared the relative effects of PI and Communicative output (CO) tasks on the acquisition of anticausative clitic *se* in Spanish; thus the study involved 27 learners for PI group and 28 for CO group with two other control groups (N= 25). While PI received similar referential and affective activities which made morpheme (*se*) more salient and easy to process, CO did not strictly perform usual structured output activities, but rather exposed learners to communicative oriented activities, whole-class activities requiring production and open-ended teacher questions. The sequence of the activities 'progressed from guided, less demanding production to more demanding, open-ended tasks' (p. 339). To see the linguistic environment of the two groups, one lesson for each group was videotaped and transcribed.

Toth views the study as "not an exact replication of other PI research" (p. 328) because the assessment measures did involve grammaticality judgment (GJ) rather than interpretation tasks. Toth did not use interpretation task in the tests because it partially overlaps with the tasks given in the instructions. The GJ task asked learners to rate the grammatical acceptability of 50 sentences on a Likert scale. In the production task, learners were required to write the descriptions of each picture using the related words.

The pretest, immediate posttest and delayed posttest (24 days later) were designed as a split block as usual to have learners use the different versions of the same tasks. After pretest, five learners scoring 50% or higher were removed in order to attribute the effect

only to the instructional treatments. The results revealed that PI and CO outperformed the control groups in both production and GJ tasks of all the three tests. As to their differential effects, both experimental groups had "parallel improvements" (p. 350) in terms of their grammatical judgments. However, learners in CO group produced anticausative clitic *se* more frequently than those in PI group. This outcome was also corroborated by the transcript data qualitatively.

Keating and Farley (2008) recruited 87 undergraduate learners of Spanish and divided them into PI group (N=36), Meaning-based output instruction (MOI) group (N=25) and Meaning-based drills instruction (MDI) group (N=26). The target structure was Spanish object pronouns. Both PI and MOI first received explicit explanation of the structure and information about processing strategies that reminded students of the flexibility of Spanish word order. Both PI and MOI groups also did six referential and four affective activities. However, while PI did structured input activities, MOI practiced structured output activities. MDI group, on the other hand, did not receive any explicit explanation plus strategy training about the related structure. Instead, MDI packet 'reflected a more traditional yet meaningful approach' (p. 643) and 'consisted entirely of meaningful and communicative drills that required learners to produce the target forms in meaningful contexts' (p. 643). In short, MDI seemed to MOI at surface level.

The pretest/posttest results indicated that PI achieved higher scores than MDI group on the interpretation task. However, the difference between PI and MOI was not significant on the same task; they were equal. As for the production task, both MOI and MDI improved their performance much more than PI. Put another way, not only was MOI group able to interpret as well as PI group but also produce more than PI. This result mirrored the result found in Farley (2004a). For the greater performance of MOI than PI, Farley and

Keating (2008, p. 646) pointed to 'the incidental structured input that MOI learners received as they listened to their classmates respond aloud during the follow-up phase to each activity'. As both MOI and PI received explicit information and strategy training before the activities started, Farley and Keating argued that MOI showed advantage over PI because the incidental input that MOI received as they listened to each other was 'nearly akin to providing PI itself, along with the benefit of production practice' (p. 646). In another way, the researchers claimed that 'MOI carries with it all of the benefits of PI plus output-focused practice' (p. 647). Finally, both MOI and MDI outperformed PI on the production task and only MOI performed equally as well as PI on the interpretation.

Farley and Aslan (2012) involved 64 Turkish learners of English and assigned them into PI (N=19), MOI (N=23), and Control (N=22). The structure was the English present subjunctive mood. The processing problem was the lexical preference principle. Both instructional groups first took explicit explanation and then while PI was exposed to eight structured input activities; MOI was exposed to eight structured output activities. Interpretation task data showed that both instructional groups performed better than the control group but equally well between each other. This result was similar to the outcome found in Farley (2001). The production task data showed that the performance of MOI group was significantly higher than that of PI group. Farley and Aslan argued that it was 'due to learner output being utilized as input (incidental input) for other learners' (p. 135) that learners in MOI group may have performed better than those in PI on production and equal on interpretation task. The researchers nevertheless suggested that 'each instruction type has its own functional benefits in and out of the classroom for learners, and together these can serve as complementary tools for second language teachers' (p. 137).

All in all, as easily noticed from the review of the studies above, the research has so far investigated comparative effects of input and/or output on the acquisition of a variety of grammatical structures in different languages, mostly in Spanish, Italian, English, Japanese, French, German and Russian as follows:

Spanish	VanPatten and Cadierno, 1993; Cadierno, 1995; VanPatten and Sanz, 1995; VanPatten and Oikkenon, 1996; Dekeyser and Sokalski, 1996; Salaberry, 1997; Collentine, 1998; Farley, 2001; 2004a&b; Cheng, 2002; Sanz and Morgan-Short, 2004; VanPatten and Fernandez, 2004; Sanz, 2004; Sanz and Morgan-Short, 2004; Morgan-Short and Bowden, 2006; Toth, 2006; Fernandez, 2008; Keating and Farley, 2008; VanPatten, Farmer and Clardy, 2009; VanPatten, Inclezan, Salazar and Farley, 2009; VanPatten and Borst, 2012; VanPatten et al., 2013
Italian	Benati, 2001; 2004a&b
English	Benati, 2005; Qin, 2008; Farley and Aslan, 2012
Japanese	Nagata, 1998
French	Allen, 2000; VanPatten and Wong, 2004; Erlam, 2003; Wong, 2004b; VanPatten et al., 2013
German	Culman et al., 2009; Henry et al., 2009; VanPatten et al., 2013
Russian	VanPatten et al., 2013

However, more studies are needed either to replicate some of the available studies in the literature or to focus into new experimental designs comparing different functions of both PI and PBI. This is explained below in the motivation and significance of the present dissertation.

The Present Study and its Significance

Over the last two decades, the importance of instruction in teaching grammar for second language development has occupied a major place in the pedagogy and series of instructional types were put forward:

i. Processing instruction (PI)
ii. Production-based instruction (PBI)
iii. Explicit grammar information (EI)

This dissertation conducted a quasi-experimental research with four instructional groups (PI+EI; PI-EI; PBI+EI; PBI-EI) and one control group, which thereby fills some gap in the literature and contributes in a few ways:

(a) This dissertation has investigated the role of explicit grammar explanation in processing instruction (PI+EI) or the role of structured input alone (PI-EI) the other way around. The fact that whether EI plays any role within PI groups (PI+EI vs. PI-EI) have so far been explored by a large number of studies (e.g. VanPatten and Oikkenon, 1996; Wong, 2004b; Benati, 2004a; Benati, 2004b; Sanz, 2004; Sanz and Morgan-Short, 2004; Farley, 2004b; Fernandez, 2008; Culman et al., 2009; Henry et al., 2009; VanPatten and Borst, 2012; VanPatten et al., 2013) most commonly on Spanish as the target language and other languages such as English, French, Italian, German, Russian. The findings generally showed the equal effect of PI-EI (structured input alone) and PI+EI both on interpretation and production task.

This dissertation has likewise compared PI+EI and PI-EI in order to find out whether it is explicit information or structured input alone in processing instruction has greater effect on

both interpretation and production of English simple past tense verb morphology by Turkish learners of English.

(b) However, the role of EI within PBI groups (PBI+EI); in other words, the role of structured output (PBI-EI) on the acquisition of verb morphology has so far received scant attention in the field and thus not much researched. This information was based on

- studies published in Journals: *Applied Linguistics, The Canadian Modern Language Review, Computer Assisted Language Learning, Language Awareness, Language Learning, Language Teaching Research, The Modern Language Journal, Studies in Second Language Acquisition, System, TESOL Quarterly, Applied Psycholinguistics, Foreign Language Annals, Hispania, JALT Journal, Second Language Research, RELC Journal, Spanish Applied Linguistics.*
- chapters from some books: VanPatten (2004a); Benati (2009); Benati and Lee (2008); Benati and Lee (2010); Lee and Benati (2009).
- and the most recently published meta analysis by Shintani, Li, and R. Ellis (2013)

To fill this gap in the literature, this dissertation has compared PBI+EI group and PBI-EI. The main difference between the groups was only the lack of explicit grammar explanation in the packet prepared for PBI-EI group. Therefore, this dissertation has revealed any role of EI or any importance of structured output activities in PBI.

(c) This dissertation has further compared PI+EI and PBI+EI groups in order to find out whether PI or PBI helps foreign language learners more while interpreting and producing the target verb morphology. Although such type of comparison has already been made over the past two decades (VanPatten and Cadierno, 1993;

VanPatten and Sanz, 1995; VanPatten and Fernandez, 2004; VanPatten, Inclezan, Salazar and Farley, 2009; Cadierno, 1995; Farley, 2001; Cheng, 2002; Benati, 2001; 2005), this dissertation has nevertheless corroborated the findings of the earlier research in a different context with Turkish learners of English.

(d) Furthermore, this dissertation has investigated whether it is structured input (PI-EI) or structured output (PBI-EI) activities that helped Turkish learners of English both interpret and produce the target grammatical structure more correctly. As this type of comparison has not received much attention before as in the same literature mentioned in (b), the findings of the present dissertation may contribute to the available research by showing which type of grammar instruction; that is whether structured input or structured output activities without EI, has major role in the interpretation and production of the target structure.

(e) In addition, the cross-comparison made in (c) and (d) has further shed light on the possible role of EI when PI groups were compared with PBI groups: PI+EI vs. PBI+EI and PI-EI vs. PBI-EI. From this point of view, it yielded a different outcome for the importance of explicit grammar explanation both on interpretation tasks and production tasks.

(f) Last but not least, research has so far produced instructional materials using all four types of learning channels (e.g., listening, reading, writing and speaking) but has measured learners' performance generally by aural interpretation and written production task types, without including written interpretation and oral production task. This dissertation has got the advantage of all four types of learning channels while giving interpretation and production tasks in the regular instructional stage.

Similarly, assessment tasks measured learners' performance not only by aural and written interpretation task but also by oral and written production task types.

The Research Questions and Hypotheses

This dissertation investigated any possible effects of PI and PBI as well as the role of EI within the instructional groups on the acquisition of English simple past tense regular verb morphology. There follows the research questions and hypotheses guiding the design of the current study.

Research Question 1: Is there any significant difference between PI+EI and PBI+EI on …

a) sentence-level interpretation tasks?
b) sentence-level production tasks?

Hypothesis 1: Learners receiving PI+EI obtain higher scores on the interpretation tasks than those in PBI+EI group and perform equally well on the productions tasks.

Research Question 2: Is there any significant difference between PI-EI and PBI-EI on …

a) sentence-level interpretation tasks?
b) sentence-level production tasks?

Hypothesis 2: Learners receiving PI-EI improve more than those in PBI-EI group on the interpretation tasks and perform equally well on the productions tasks.

Research Question 3: Is there any significant difference between PI+EI and PI-EI on …

a) sentence-level interpretation tasks?
b) sentence-level production tasks?

Hypothesis 3: Both PI+EI and PI-EI help learners interpret and produce the target structure equally well; that is, EI does not play a significant role in processing instruction.

Research Question 4: Is there any significant difference between PBI+EI and PBI-EI on...

a) sentence-level interpretation tasks?

b) sentence-level production tasks?

Hypothesis 4: Both PBI+EI and PBI-EI help learners equally well on the interpretation and production of the target structure; that is, EI does not play a significant role in production-based instruction.

Research Question 5: If one type of instruction outweighs the others, would the possible positive effects for the instruction be retained equally well over time by the four instructional groups on…

a) sentence-level interpretation tasks?

b) sentence-level production tasks?

Hypothesis 5: All instructional groups increase their pretest scores on the immediate posttest after they receive instructions and maintain them on the delayed posttest after a three-week period. While PI groups outperform the PBI groups on the interpretation tasks, they perform as equal as the PBI groups on the production tasks.

Definition of Terms

Acquisition: The processes of the internalization of forms, meanings and uses of the phonology, morphology, lexicon, syntax, pragmatics of a language.

Input: The linguistic data to which learners are exposed in a communicative context.

Input processing: Cognitive processes learners go through making initial form–meaning connection between a grammatical form and its meaning and parsing sentences during the act of comprehension while their primary attention is on meaning.

Processing Instruction: A type of focus on form or an explicit type of instruction informed by Input Processing; it attempts to alter default processing strategies that learners use while interpreting the target grammatical feature and to help establish better form–meaning connections than they would if left to their own devices. It is formed by an explicit grammar explanation of the target structure and a series of structured input activities related to it.

Structured input activities: A series of activities that contain input specifically structured to help learners change non-optimal processing strategies that they take to the task of comprehension by means of a nonverbal or minimally verbal response and thus make better form–meaning connections.

Output: Language that is produced by the learner

Output Hypothesis: A hypothesis arguing the effectiveness of output especially when it pushes learners to produce messages in the target language

Production-based Instruction: A type of focus on form or an explicit type of instruction informed by Output Hypothesis; attempts to alter the default processing strategies that learners use while producing the target grammatical feature and to help establish better form–meaning connections than they would if left to their own devices. It is formed by an explicit grammar explanation of the target structure and a series of structured output activities related to it.

Structured output activities: A series of activities that contain specifically manipulated output to help learners produce the target structure both in written and oral way and thus make better form–meaning connections.

Explicit information: A part of instruction that overtly provides information to the learner about the target feature of the language and how it works.

CHAPTER 4 - RESEARCH DESIGN AND METHODOLOGY

Introduction

This chapter explains the experiment designed to investigate, if any, differential effects of processing instruction (PI) and production-based instruction (PBI) with and without explicit information (EI) on the acquisition of English simple past tense by Turkish learners of English.

This chapter describes the experimental design of both pilot and main study.

Research Design

A quasi-experimental research design was produced for this study as in the table 1. That is, the study was conducted at a private university conveniently selected for the research, including treatment groups which received different instructional packets and a control group which did not receive anything about the target grammatical structure; instead, followed the syllabus in textbook. As can also be seen in the table 1, three different versions of the tests were created (version A, B, C) and counterbalanced in order to prevent test item familiarity.

Table 1. A Sample for the Quasi- Experimental Research Design

	Pretest	Treatment	Posttest	Delayed Posttest
Instructional Groups	Test A	Instruction	Test B	Test C
Control Group	Test C	Comparison	Test A	Test B

The learners were randomly selected and assigned into four instructional groups receiving PI with and without EI (PI+EI; PI-EI), PBI with and without EI (PBI+EI; PBI-EI) and finally into one control group.

Each of the treatment groups had four hours of instruction in their regular classes for two consecutive days. Throughout the instructional stage those in PI groups received material packet A with and without EI; those in PBI group material packet B with and without EI. Put simply, while learners in PI group were not asked to produce any utterance in English simple past tense but to do interpretation based activities, learners in PBI group were engaged in producing meaningful utterances.

The learners were tested three times throughout the study. They took pretest one week before the instructions; immediate posttest one day after the instructions and delayed posttest three weeks later (see figure 2). Pretest analysis was conducted using the same method or cutoff score (60%) as in the previous studies (for instance VanPatten and Cadierno, 1993; Farley, 2001; Cheng, 2002), thereby helping eliminate those who scored at and above 60% and level out learners' interpretation and production scores prior to the study. This procedure provided learners to have equivalent knowledge of the target structure prior to receiving any instructional treatment, thus successfully managing to assert any increase in the posttest scores 'to the instructional treatments, not to the learners' differential prior knowledge.' (Lee and Benati, 2009, p. 144)

The first posttest measured the immediate effects of both PI and PBI groups on the acquisition of English simple past tense. The second, or delayed, posttest aimed to find out whether or which instructional groups were more effective in promoting the internalization of the target structure in the long run. Put another way, posttest 2 measured long term effects of the two instructional types.

Table 2. Summary Timeline for the Research

Pretest (All groups)	PI+EI; PI-EI		PBI+EI; PBI-EI		PI+EI PI-EI	PBI+EI PBI-EI
	Instruction	Immediate Posttest	Instruction	Immediate Posttest	Delayed Posttest	
Week 1	Week 2	Week 2	Week 3	Week 3	Week 5	Week 6

To prevent test item familiarity or memorization, split-block design was prepared for the tests according to the procedure established by VanPatten and Cadierno (1993), in which pretest, posttest 1 and posttest 2 included different versions of each other such as version A, B and C.

All tests were formed by interpretation (comprehension) and production based tasks measuring the target grammatical structure through different learning channels, such as aural and written interpretation tasks and oral and written production tasks. The interpretation tasks required the learners to listen or read a series of sentences and then to indicate whether the statement is happening at the present or in the past. The production tasks asked the learners to produce sentences in the past (describing past events or a story that a person lived).

Pilot Study

The study was piloted at a small-scale to revise the instructional materials and assessment tests, to find out any possible problems throughout the experimental procedure and to address them before the main study was carried out. In short, all parts of the main study were piloted and the results given below.

Unlike the main study which included four instructional groups (PI+EI; PI-EI; PBI+EI; PBI-EI), the piloting study compared only PI+EI and PBI+EI groups. It did not involve PI-EI and PBI-EI groups because they were already using the same materials except the handout for explicit grammatical information. In addition, there was no control group.

Thus research questions for the pilot study were as follows:

1. Does PI+EI and/or PBI+EI bring about significantly beneficial effects and improved performance on sentence-level interpretation tasks?
2. Does PI+EI and/or PBI+EI bring about significantly beneficial effects and improved performance on sentence-level production tasks?
3. Does PI+EI and/or PBI+EI retain its performance over time?

Setting

This piloting research took place at a private University English Preparatory School in Istanbul, Turkey in 2013-2014 academic years. It was the beginning of Fall semester when the piloting process was started and completed in the first week. To measure proficiency level, the school gave all its learners Michigan Proficiency and Placement Exam before the educational year and categorized the learners as elementary, pre-intermediate and intermediate level. The school had more than 1000 learners at the time of the piloting, out of which 700 were at elementary level. This piloting study involved only learners of two elementary classes. Learners were following a main course textbook “Straightforward Elementary” with its supplementary materials (published by Macmillan). They were taking 28 English class hours in one week at the time of the pilot study.

Participants

Thirty-seven EFL learners at elementary level were randomly recruited for the pilot study. Also the learners were randomly assigned into two instructional groups as PI+EI and PBI+EI. All of the learners were aged between 18 and 19. Just over half the sample (53.8%) was female; 46.2% male.

Attrition of participants

Five learners failed to complete all of the pre, post and delayed posttests and thus were removed from the analyses. Six more were later eliminated from the data pool after the pretests were conducted as they scored greater than 60% on both interpretation and production tasks. At the end, for the analysis of the results, the final *N* size was 14 for PI+EI group; 12 for PBI+EI group.

Instructional Materials

While one class received Packet A for processing instruction; the other class received Packet B for production-based instruction. The materials in both instructional packets started with explicit grammatical information about the target structure (regular verb forms of English simple past tense –ed) and information about processing strategies that reminded learners of paying attention to the end of the verb to understand pastness in English. After the handout for EI, the packets continued with different, but same number of, instructional activities. Both instructional packets had six referential, four affective, activities. Referential and affective activities in PI+EI packet were created according to the procedure used by VanPatten and Cadierno (1993) and principles stated in VanPatten (2002; 2004a). That is, learners did not produce anything about the related structure but

were engaged in making a choice either about people or their own present or past life. Referential and affective activities in PBI+EI packet, on the other hand, were designed to make learners produce the target structure in meaningful contexts.

Assessment Materials

Assessment materials were prepared as in the literature mentioned above in three different versions (Version A, B, C) for the pretest, posttest, and delayed-posttest. The three versions similarly consisted of aural and written interpretation and oral and written production tasks. The tests were also counterbalanced for the two classes, meaning that while one was taking Version A as the pretest, the other was taking Version B for the same test. A similar procedure was used for the other tests, at the end allowing all the learners to take the three versions.

Procedure

After getting permission for the research from the prep school coordinator, the piloting research process started. First, the content of the school syllabus was modified in such a way that these classes were not taught anything about the target structure "English simple past tense" throughout the pilot study. The unit involving regular –ed form was placed at a different week in the syllabus later than the study. After that, learners were randomly selected and then assigned into the two instructional groups. Before the experiment started, learners responded to a background questionnaire, filled a consent form and took the pretest with interpretation and production tasks. Then, learners scoring less than 60% on both tasks in the pretest were retained for the later analysis.

After the pretest, the two classes received four-class hours of instruction from the same teacher (or the researcher himself) either with PI+EI or with PBI+EI. All the experimentation took place in learners' regular classes. When the researcher was in the class to give the instruction, regular classroom teacher also stayed in and used an observation sheet to control whether any bias to one of the instructions occurred (see Appendix I and J). The teacher also checked the time for the each instructional activity. Upon completion of the instructions, the groups received immediate posttest. One week later they received delayed posttest.

Scoring Procedure

Each test had four types of tasks as aural interpretation, written interpretation, oral production and written production. Each of these tasks had ten target items involving regular –ed form, in total 40 for all the tasks. That is, the highest score was twenty for both interpretation (aural and written) and production (oral and written) tasks. As the items were definite, one item-one point procedure was used. That is, they did not have partially-correct responses, thus partially-correct credits. For the blank and incorrect response, a score of zero was assigned.

Coefficient Alpha Reliability

To find out how much consistency or stability of the values remain within the tests, coefficient alpha reliability analysis was conducted for the items on the interpretation and production tasks and preferable levels of internal consistency were observed (Cronbach's alpha .84, .83, .83 for pre, post and delayed posttest respectively).

Internal consistency reliability analyses in the pilot study produced a preferable alpha score .846 for the total sample tests. (see table 3)

Table 3. Cronbach's Alpha Output from the Reliability Analysis of the Pilot Study

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,846	,919	96

Data analysis

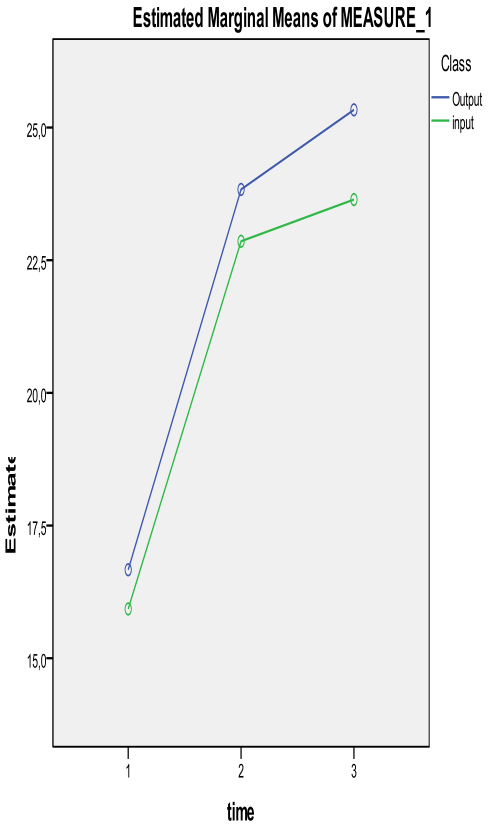
There were two instructional groups only (PI+EI; PBI+EI) and each was measured on three occasions (pre, post, and delayed post tests). Thus, to combine between-subjects and within-subjects variables in the one analysis, split-plot ANOVA design (SPANOVA) was conducted.

Results

The analysis revealed that the mean pretest scores seem close to each other (M=15.93; M=16.67) for PI+EI and PBI+EI respectively as in Table 4 below. However after receiving the treatment, their scores changed (M=22, 86; M=23, 83) for PI+EI and PBI+EI group respectively and again one week later (M=23, 64; M=25, 33) for PI+EI and PBI+EI group respectively. Although there seems to be a successive increase after instructions for both groups differently, we do not still know whether this increase is statistically significant.

Table 4. Interpretation and Production Task Scores for PBI+EI and PI+EI Groups across Three Time Periods

	Group	Mean	Std. Deviation	N
Pretest	PBI+EI	16.67	4.397	12
	PI+EI	15.93	4.682	14
	Total	16.27	4.477	26
Posttest	PBI+EI	23.83	4.914	12
	PI+EI	22.86	5.614	14
	Total	23.31	5.221	26
Delayed posttest	PBI+EI	25.33	6.272	12
	PI+EI	23.64	6.801	14
	Total	24.42	6.488	26



Thus a mixed between-subjects analysis of variance was conducted to measure the effect of two different instructional groups on learners' scores on interpretation and production tasks across three time periods. The results showed that there was no significant interaction between instructional type and time, Wilks Lambda = 0.99, F (2, 23) = 0.08, p = 0.93, η^2= 0. 01. There was a substantial main effect for time, Wilks Lambda = 0.38, F (2, 23) = 18.65, p < .0005, η^2 = 0.62, with both groups showing a successive increase across the three time periods on test performance. (see table 5)

Table 5. Multivariate Test Scores for the Effect of Time and the Interaction of Time and Group

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Time	Pillai's Trace	.619	18.650[a]	2.000	23.000	.000	.619
	Wilks' Lambda	.381	18.650[a]	2.000	23.000	.000	.619
	Hotelling's Trace	1.622	18.650[a]	2.000	23.000	.000	.619
	Roy's Largest Root	1.622	18.650[a]	2.000	23.000	.000	.619
Time* Group	Pillai's Trace	.007	.078[a]	2.000	23.000	.925	.007
	Wilks' Lambda	.993	.078[a]	2.000	23.000	.925	.007
	Hotelling's Trace	.007	.078[a]	2.000	23.000	.925	.007
	Roy's Largest Root	.007	.078[a]	2.000	23.000	.925	.007

However, the main effect comparing the two instructional types was not found significant, F (1, 24) = 0.460, p = 0. 50, η^2 = 0. 019, thus showing no difference in the effectiveness of the two instructional types as in Table 6.

Table 6. Tests of Between-Subjects Effects

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	35433,173	1	35433,173	653,297	,000	,965
Group	24,968	1	24,968	,460	,504	,019
Error	1301,698	24	54,237			

This piloting study found that both instructional groups performed equally well both on sentence-level interpretation and production tasks from pretest to posttest 1 and 2, although PBI+EI group seemed to have higher performance than PI+EI group. However, this difference is not statistically significant (RQ 1 and 2). Furthermore, the pilot study also revealed that both instructional groups were able to maintain their performance across the three time periods (RQ 3). All these results indicated that the instructional groups were both found effective on the acquisition of the targeted structure.

All in all, this piloting study did not set out to find concrete findings related to the effectiveness of the instructional types; instead aimed to pilot the instructional and

assessment materials and address any possible flaws within the materials prior to the main study, which is detailed in the following section.

Main Study

A detailed description of the experiment is provided in this section. The same experimental design with its pre and posttest measures was adopted as in the pilot study. (see figure 2 for the overview of the research design)

Setting

This study was conducted at English preparatory school of an English-medium private University in Istanbul at the beginning of Fall semester in 2013-14 academic years. The prep school education lasted for one year, aiming to teach English for general academic purposes. The learners at the prep school were following recently published or updated English course books, for instance “English Straightforward” series and its supplementary materials by Macmillan. Each of the learners had to take Michigan Proficiency and Placement Exams at the beginning of the semester and was placed into levels such as elementary, pre-intermediate and intermediate. Learners at upper intermediate or advanced levels did not stay in the prep school; instead, followed their own academic programs in the faculties or departments. The school hosted more than 1000 learners after the proficiency exam. There were almost 100 English language teachers at the school. The number of the learners in each class was around 20, thus making classes manageable and easy to use. Each class had one computer, one overhead projector and a sound system for listening and video watching activities. Learners at the prep school were under 28 English class hours each week, generally taught by two teachers at the time of the study.

Sampling of Participants and Attrition

After the proficiency test, there were almost 1000 learners, of whom 700 were placed into elementary; 300 into pre-intermediate and intermediate. It was the elementary level learners that were the target population for this study as those in the intermediate levels had already some knowledge about the investigated target structure. After the approval of the prep school director was obtained, only 700 elementary learners were randomly distributed into thirty five classes, of which nine classes were then randomly selected for the study and randomly assigned into

a) eight instructional classes (two classes for each of the four instructional groups)
b) one control group class

The initial sample consisted of 194 learners, of whom two did not consent to be involved into the study. Thus the total number was 192 at the beginning of the study. See the table 7 below for the detailed distribution of learners in each instructional and control group.

Table 7. The Detailed Distribution of Learners in Each Instructional Group and Control Group

Classes	Instruction	N of initial sample for each class	Total N of initial sample for each instructional group
Class 7	PI+EI	20	41
Class 19	PI+EI	21	
Class 15	PI-EI	22	42
Class 26	PI-EI	20	
Class 10	PBI+EI	21	45
Class 35	PBI+EI	24	
Class 5	PBI-EI	20	42
Class 14	PBI-EI	22	
Class 2	Control Group	22	22
		192	192

Not all learners of course did actively participate in the experimental process. Some either missed pretest or posttests or failed to participate in the instructional stage. Thus they were not involved in any later analyses. In total eight missed the pretest; six the posttest 1; five the posttest 2. Another eight did not come to instructional classes. As can be seen in the table 8 below, except for one class, a large number of learners (N=27) both in instructional groups and even in control group failed to complete the whole experimental process. Consequently there were 165 learners left for the pretest analyses.

Table 8. Detailed Number of Attrition throughout the Instructional Stage and/or in the Tests

Instructional Classes		Instruction	Pretest	Posttest	Delayed Posttest	Total N of Attrition
Class 7	PI+EI	2	2		1	5
Class 19	PI+EI	1				1
Class 15	PI-EI		2	1		3
Class 26	PI-EI					0
Class 10	PBI+EI	2		1		3
Class 35	PBI+EI	3	1	1	2	7
Class 5	PBI-EI				1	1
Class 14	PBI-EI		1		1	2
Class 2	control group	no instruction	2	3		5
						27

The pretest scores of the learners (N=165) were analyzed to eliminate those who scored 60% or better both on the interpretation (aural and written) and production (oral and written) tasks. At the end 21 learners performed better than 60% on the tests, meaning that they had pretty good knowledge about the investigated structure thus were removed. After this procedure, the final sample of the learners was *N*=144 as in the table 9.

Table 9. Detailed Description of the Final Sample of the Learners after Pretest Scores

Groups	Final sampling after Pretest scores	
	Eliminated	Target Population
PI+EI	7	28
PI-EI	7	32
PBI+EI	3	32
PBI-EI	3	36
Control Class	1	16
Total	21	144

Background information about the learners from the final sampling is given below in the table 10. It shows that just over half the sample was male (51, 6%) and the other half female (48, 4%). All of the learners were aged almost 19 years old (M= 18, 92) and they were native speakers of Turkish. Prior to the study, they had taken English language instruction at high schools for about four and eight years. The motivation of the learners

about language learning at prep school came from the fact that the university was English-medium and thus English was a compulsory language to be able to follow academic programs in the departments.

Table 10. Background Information about the Learners after Final Sampling

	Age M (SD)	Gender	Percent
	18,83	69 male	47,9
		75 female	52,1
Total		144	100

Target grammatical structure and selection process

This experimental study aimed to uncover whether and which instructional treatments (PI with and without EI and PBI with and without EI) have greater impact on teaching English grammatical structures. To this end, English simple past tense regular verb morphology (-ed) was selected in terms of its difficulty.

The selection was not random. First it was based on the literature (e.g., VanPatten 2002a; 2004a) claiming that learners do not attend to the morphological form of the verb (-ed) but to the lexical adverbs such as “yesterday or last week” for making form-meaning connection. Second, some studies also investigated the morphological form of the verb in Spanish (Cadierno, 1995) and English (Benati, 2005) but involved either limited number of learners or compared PI+EI to traditional instructional groups. Third, prior to the onset of the study, the researcher interviewed with some of the learners and forced them to speak about their past life in order to find out whether learners really had default processing problem on the use of morphological form of the regular verb in English simple past tense. The interviews were recorded. The recordings concretized the literature and supported the studies in the literature: learners even at high level had a default processing problem, not

on the irregular verbs, but on the regular verb form –ed. In other words, learners could not make form-meaning connection as easy as expected even at higher levels. They had default strategy or processing problem, relying on the lexical adverbs rather than grammatical form (-ed) to refer to the past (VanPatten, 2002a; 2004b).

All in all, (Wong, 2004b) stipulated that an input processing problem be found as the first necessary step towards performing input processing studies. So, English simple past tense morphological form was found to create a processing problem for elementary learners and thus was selected as the target structure for investigation in this study. After that, specific materials of the related structure were prepared.

For instance, prepared by taking Vanpatten's (2002a; 2004a) principles into account, PI materials did not involve any lexical adverbs (e, g., yesterday, last week etc.), but focused on the target form (-ed) in aural and written activities. The learners just interpreted and chose whether the event is happening at present or in the past. Likewise, PBI materials were prepared according to the principles of Lee and VanPatten (1995), making learners produce the target structure both in written and oral ways by using pictures and verbs for the events which happened in the past.

Much more information is given for the materials in the next section.

Instructional Materials

Two different material packets were developed for this study according to the principles of VanPatten (2002a; 2004a) for PI groups and of Lee and VanPatten (1995) for PBI groups. Furthermore, a handout for metalinguistic explanation of English simple past tense was prepared. All these activities are detailed below.

Explicit Information (EI) Handout

The EI handout aimed to foster both PI and PBI learners' awareness of the target grammatical form (-ed) in English to refer to the past. It contained information about –ed, -d, and –ied forms within sample sentences to talk about finished actions in the past. In addition to that, learners in both PI and PBI groups also learned temporal adverbs such as "yesterday" to refer to the past but with regard to strategy training they were clearly warned about sentences without temporal adverbs for the past events. Thus learners were made to focus only on the tense ending or morphological form –ed to establish strong form-meaning connection. After the handout was completed, packet A and packet B were distributed.

Packet A: PI Activities

Packet A consisted of two versions for the two PI groups (PI+EI; PI-EI). While one of the PI groups was taking packet A with EI, the other was taking the same packet without EI. It included six referential and four affective activities. In total there were ten activities in which never were learners directed at producing the target structure.

According to VanPatten's "lexical preference principle", when both lexical items and grammatical forms carry the same meaning, learners prefer the former to the latter to interpret the meaning; therefore, the sentences in both referential and affective activities did not contain any lexical items (such as *yesterday*) to encourage learners to direct their attention only to the morphological form – ed in the sentences.

VanPatten (1993) describes six ways concerning how PI materials should be produced. These guidelines were closely followed while preparing the activities.

a) Present one thing (one function/use of a grammatical structure) at a time

b) Keep meaning in focus

c) Have learners do something with the input

d) Keep the learners' processing strategies in mind

e) Move from sentences to connected discourse

f) Use both oral and written input

In short, the instructional materials and activities in Packet A were prepared considering carefully those mentioned guidelines with the aim of changing learners' default processing strategies to more optimal ones. In other words, at no time during processing instruction did the learners produce any utterance in the target structure.

Referential Activities in Packet A

Six referential activities were prepared for PI groups (PI+EI; PI-EI) in total. With the help of referential activities, according to VanPatten (2002a; 2004a) the learners were expected to concentrate more and thus easily process the target structure as the lexical markers were removed from the sentences. In these activities, learners were asked to find out whether the events in the sentences are referring to finished actions in the past or progressive events happening at present and then to make a choice between them. Thus they had only one right or wrong answer. VanPatten and Borst (2012) argue that these activities are manipulated in such a way that it must 'force the learners' internal processors to abandon a strict reliance' (p. 272) on the default processing strategy to circumvent it.

Feedback about the right or wrong answer was provided after each sentence without waiting for the end of the whole activity. Especially, for PI+EI group, grammatical explanation was not repeated as it was already provided in the handout at the beginning. As a feedback, they were reminded of tense verb ending –ed by asking them to restate their answer. However, for PI-EI group, feedback was more like "right" and "wrong" answer

session, from which learners in that group were waited to establish form-meaning connection implicitly. According to the guidelines in VanPatten (1993) and to principles as in VanPatten (2002a; 2004a), referential activities were developed using both aural and written input (see the sample activity below).

A sample referential aural activity

"Acun Ilıcalı: Now and Then"

The following statements were taken from Acun Ilıcalı's facebook page about his life. Listen to each statement and decide whether he is referring to his present life or his past life. Circle the correct option for you.

	(Now)	(Then)
1	_____	_____
2	_____	_____
3	_____	_____

Sentences heard:

Acun Ilıcalı. . .

1. studied in Edirne
2. helps poor children
3. married very young

A sample referential written activity

"Arda Turan's past or present life"

The statements below come from an interview with Arda Turan. Read each statement and indicate whether they are referring to his present life or past life. Circle the correct option.

1. He started football in Bayrampaşa Altıntepsispor.
    a) Present b) past
2. He stays alone in an apartment in Florya.
    a) Present b) past
3. Trainers enjoyed his performance.
    a) Present b) past

Affective Activities in Packet A

The number of affective activities produced for PI groups (PI+EI; PI-EI) was four. In order to strengthen the effect of referential activities and to establish stronger form-meaning connection, affective activities were given later than the referential activities. Thus affective activities had a complementary role in processing instruction. Put simply, Wong (2004a) states that affective activities reinforce the connection between form and meaning by providing learners with more opportunities or practice to see or hear the morphological form used in a meaningful context, especially when the activities are about their life or when they 'allow learners to offer opinions or indicate something about themselves' (VanPatten and Borst, 2012, p. 272). While doing this, affective activities 'require learners to express an opinion, belief or some other affective response as they are engaged in processing information about the real world' (Wong, 2004a, p. 43). Therefore they generally have more than one correct answer (see the sample activity below).

A sample affective activity

"New Year Celebration"

The statements below come from an interview with Juan, a Chinese learner. He listed his New Year celebration activities. Read each statement and decide whether you did similar or different things at the last New Year celebrations. Circle the correct option for you.

		This happened to me	
Juan	…	True	False
1.	attended a Chinese temple	_____	_____
2.	prayed for good luck	_____	_____
3.	washed all the dishes.	_____	_____

Packet B: PBI activities

Packet B consisted of two versions for the two PBI groups (PBI+EI; PBI-EI). The only difference was the availability of EI: while one of the PBI groups received packet B with EI, the other received without EI. Packet B also contained six referential and four affective activities, ten in total. What made packet B different from the packet A was that Packet B was prepared to make learners produce the target verb form. That is, in packet B learners were always supported to create sentences using English simple past tense regular verb form not only in meaningful but also in salient contexts without temporal adverbs; in other words, through structured output activities.

The activities were developed by following the guidelines provided by Lee and VanPatten (1995, p. 121).

a) Present one thing at a time

b) Keep meaning in focus

c) Others must respond to the content of the output

d) The learner must have some knowledge of the form or structure

e) Move from sentences to connected discourse

f) Use both written and oral output

Referential Activities in Packet B

Six referential activities fostered learners to produce meaningful utterances using the target grammatical form – ed. In these activities lexical adverbs such as "yesterday" or "last week" were altogether removed so that learners could turn their full attention to the use of target –ed form and establish direct connection at the end. Learners were given a variety of pictures of a person and a list of regular verbs to be able to produce sentences in the English simple past tense. The activities had either right or wrong answer. Put another way, when the –ed form was added to end of the verb as a tense ending, it was correct answer; when it was lack of the morphological form, it was wrong. Feedback for both PBI+EI and PBI-EI groups was given after each sentence, not at the end of the whole activity. For PBI+EI, feedback was not metalinguistic explanation because learners in that group had already received explicit information at the beginning through handout. Thus, additional grammar explanation was not repeated. The feedback was more like "questioning" the answer. The researcher (the teacher) asked learners whether they were really sure of their production in order to encourage them to reformulate their utterance in simple past tense with –ed form. On the other hand, PBI-EI learners received only "right" or "wrong" answer as a feedback, from which they implicitly got the meaning of the past tense verb form –ed.

The activities were prepared to make learners produce sentences both in oral and written way.

A sample referential written activity

"Robin's story"

The pictures below come from a local newspaper in London about Robin's story in the past. Look at the verbs given and write about his story.

Robin/stop woman/call for help

Robin/try to help woman/escape
man/push/Robin into car

that night/men/push Robin/out of car
old man/watch them

A sample referential oral activity

The pictures below come from a sport magazine about Fatih Terim and what he did in the past. Look at the pictures and talk about him using all the verbs and adverbs given below.

Verbs

motivate	sign a contract	resign	manage	talk
argue	defeat Milan	prepare the team		

Affective Activities in Packet B

Affective activities were given after the referential activities in order to provide more opportunities for learners to produce output by giving their opinions or beliefs while engaged in meaningful communicative practices. As these types of activities asked beliefs

or opinions, they did not have only one correct answer. Feedback on the other hand was similar to the one given at the referential activities when regular verb form was produced in an incorrect way. There were four affectivities in total (see the sample activity below).

A sample affective activity

Write or tell what you did in your school last month. You can use the following verbs and nouns.

enjoy a summer picnic	visit the library	exercise together
work in the garden	paint the walls	organize a day trip

Assessment Materials

As in the studies conducted before (e.g., VanPatten and Cadierno, 1993; Farley, 2001, Benati, 2005 etc.) this experimental study used two types of assessment materials: a) interpretation task; b) production task. As can be seen, learners' performance was measured not through the use of only one channel (generally written) as in the previous studies (VanPatten and Wong, 2004; Benati, 2005; Cheng, 2002 etc.) but through involvement of all four skills as follows:

i. Aural interpretation
ii. Written interpretation
iii. Oral production
iv. Written production

There were ten target items in each of these tasks, making the top score 40 in the test. Three similar versions of each task were developed for the pretest, posttest 1 and posttest 2. For instance, while "John and Henry's holiday" was created as one context for one

version of an aural interpretation task, “Mr. Bean and Charlie Chaplin’s life” was produced as another context for another version of the same task. This was similar for the other tasks (see the all versions in the appendices). There were 120 target correct items in all of the tasks in the tests. When all these items were written, the number of the regular verbs was also controlled. Of 120 target items in total, while just one half (N=60) was chosen from the “old” verbs used in the instructional materials or the packets, the other half was chosen from the learners’ elementary textbook as “new” verbs. This aimed to balance known or unknown words in the tasks. See the detailed overview of the versions and number of items in each task below.

Table 11. Detailed Overview of the Number of Items in Each Version of the Tasks

Tasks	Pretest (Version A)	Postest1 (Version B)	Posttest2 (Version C)	Total N of target items
Aural interpretation	10 target 5 masking	10 target 5 masking	10 target 5 masking	30
Written interpretation	10 target 5 masking	10 target 5 masking	10 target 5 masking	30
Written production	10 target	10 target	10 target	30
Oral production	10 target	10 target	10 target	30
Total N of target items	40	40	40	120

Interpretation Tasks

This task investigated whether the learners could interpret or comprehend sentences and could establish direct form-meaning connections by focusing on the tense ending. It measured the performance in two channels: aural and written. Each included ten target correct items in English simple past tense regular verb form (-ed) ending and five masking sentences in English simple present tense, in total 15 items.

In the first task, the learners listened to 15 sentences about Mr. Bean and Charlie Chaplin and indicated whether the sentences referred to Mr. Bean's present life or Chaplin's past life in the blank columns.

A sample aural interpretation task

The comparative statements below come from a British magazine about Mr. Bean's present life and Charlie Chaplin's past life. Listen to their story and decide whether the statement is referring to Mr. Bean or Charlie Chaplin.

	Mr. Bean (NOW)	Charlie Chaplin (IN THE PAST)
1	_____	_____
2	_____	_____
3	_____	_____
	(12 more items)	

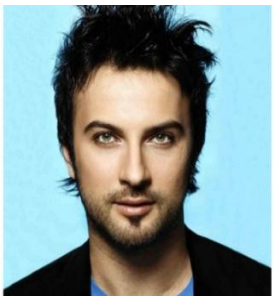
The learners heard a native speaker sound while listening to the items. And the items were not repeated the second time because the task aimed to measure learners' real time comprehension or interpretation level. All lexical or temporal adverbs (e.g yesterday, last week) were removed as in the instructional materials so that learners, according to VanPatten's Lexical preference principle, cannot rely on lexical items any longer; instead, can focus on the target tense ending to make closer form-meaning connection. Therefore,

one can easily notice that this type of task was very similar to the instructions that PI groups had received.

The second written interpretation task was same type of task as in the aural interpretation; the only difference between them was the channel used to give input. In this task, learners read 15 sentences about a famous Turkish singer; for instance Tarkan's past and present life and had to choose one of the options about him.

A sample written interpretation task

The statements below are about Tarkan's biography (his life in the past and now). Read the following phrases and indicate whether the statements are referring to what he did in the past or what he usually does in his present life.



1. He travelled around the world
   a. past life b. usually does
2. He enjoyed society's love to him
   a. past life b. usually does
3. He conquers people's heart
   a. past life b. usually does

   (12 more items)

These items were specifically prepared according to the principles of VanPatten (2002a; 2004a) and to the previous studies (e.g., Benati, 2005). The statements were without lexical adverbs to force learners to make a choice by looking for the tense ending. This task was more like the instructions that PI groups had received beforehand.

Production Tasks

This type of assessment task measured learners' ability to produce the target grammatical structure or tense ending –ed correctly both in written and oral way. Therefore, in order not to distract test taker's attention this task did not involve any masking sentence. So, each of the two tasks (one written; one oral) had ten target items.

In the first task, learners heard about a famous person's past life from a native speaker but in a half sentence. They had to complete the other half of the sentence with the regular verb forms by using verbs in the parenthesis. This task at first seemed to be easier than the other tasks because it did not have a masking option to distract attention. But at the time of the pilot and main study it was revealed that listening to the first half already diverted learners' attention away from the use of regular verb form and thus they answered incorrectly.

A sample written production task

The story below is about Mahatma Gandhi in India. You will hear the first part of a sentence about him. Change the verb in brackets to complete the sentence.

1. _____ (develop) a non-violent behavior.
2. _____ (marry) at the age of thirteen.
3. _____(study) law.

   (7 more items)

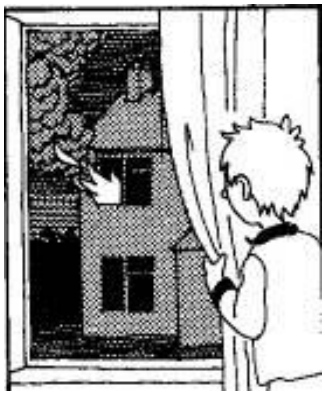
This task was also similar to the instrcuton that PBI groups had received throuhout the insrcutional stage.

In the second production task, the learners looked at some of the pictures to tell about the story that happened in the past. In order to control their production, especially the use

of regular verb form, the learners were given a list of ten verbs. They had to use all the verbs in correct sentences to talk about the person on the pictures. Before doing the task learners were advised not to match the pictures with the verbs as they were just visual help but to focus on the verbs below the pictures to talk. After they were given two minutes time to look, they started speaking and telling the story to a microphone and their voice was recorded.

A sample oral production task

Ali was at home alone yesterday night. He heard a strange noise. Look at the pictures below and tell about his story about the fire by using the verbs below.



Verbs

1. open the window
2. cry for help
3. pick the staircase

   (7 more items)

As with the written production task, oral production task was also very similar to the type of instruction that PBI groups were exposed to throughout the instructional stage.

Instructional and Data Collection Procedure

When the instructional and assessment materials were piloted, when the level of internal consistency and stability were assessed among the tests, the main experimental study started. See the research design below.

Random selection of the classes and Random assignment of the classes into five groups

Pretreatment materials (Consent form, Background questionnaire and Pretest)

Treatment materials (Packet A and B and Process)

Group 1-Packet A	**Group 2-Packet A**	**Group 3-Packet B**	**Group 4-Packet B**
PI+EI	PI-EI	PBI+EI	PBI-EI
• Explicit grammar instruction handout plus strategy training • Processing instruction (four hours) • 6 referential; 4 affective activities • Yes/no feedback	• No explicit grammar instruction • Processing instruction (four hours) • 6 referential; 4 affective activities • Yes/no feedback	• Explicit grammar instruction handout plus strategy training • Production based instruction (four hours) • 6 referential; 4 affective activities • Yes/no feedback	• No explicit grammar instruction • Production based instruction (four hours) • 6 referential; 4 affective activities • Yes/no feedback

Group 5-Textbook

Control Class

- Course book syllabus
- Simple present, present continuous and simple future reading/listening activities

Posttest 1 (one day after the instructions)

Posttest 2 (three weeks after the instructions)

Figure 2. Summary of the experimental and instructional design

The procedure can be succinctly summed up in five steps:

i. Selection of the participants and classes
ii. Pretreatment materials and process
iii. Treatment materials and process
iv. Assessment
v. Scoring

Selection of the Participants and Classes

After the preparatory school director's full consent to do research on the learners at elementary level, 700 elementary learners were randomly distributed into thirty five classes (almost twenty learners for each class). Then, in order to reach a satisfactory number of the learners for the study, of thirty-five, nine classes (N= 194) were randomly recruited for the study.

i. Two classes were selected for each of the four instructional groups
ii. One class was for the control group

Afterwards, these nine classes were again randomly assigned into four instructional groups (PI+EI; PI-EI; PBI+EI; PBI-EI) and one control group.

Pretreatment Materials and Process

When the classes started, the researcher visited each of the nine classes to give first a consent form, then background information questionnaire and finally the pretest.

a) *Consent form*: This form informed learners about the study, obtained their consent and helped them feel free to withdraw from the study at any time without giving a reason. At the end of this procedure, two learners stated that they did not want to be involved into the research study; therefore they were not invited into the instructional stage or assessment sessions (see Appendix G for the consent form).

b) *Background information questionnaire*: It was given in order to collect more data about the learners (i.e., whether they have hearing or reading impairment). It found out that all the learners' language origin was Turkish and they did not have any hearing or reading problem while doing the activities (see Appendix H for the Questionnaire).

c) *Pretest*: It provided all the learners to start with an equal knowledge of the target structure, thereby managing to assert any increase in the posttest results to the instructional packets. It was conducted in the language laboratory at the school one week before the study. It took almost 30 minutes..

   At the beginning of the research there were 194 learners.

   Participants were lost three times:

   - Two did not consent to be involved and left.
   - Twenty-seven learners did not complete all the instructional and assessment procedures and thus were not added into the raw data (see table 8).
   - Twenty one were more eliminated from the data pool as they scored 60% or greater than that on both interpretation and production tasks in the pretest (see table 9).

At the end after the pretest analysis, the final *N* size was 144 for the posttest analyses.

Also at the time of the study, the learners followed an English Elementary textbook named as “English straightforward” and its supplementary materials published by Macmillan. The fifth unit in the book involved “English simple past tense” and prior to the study it was placed on the eight week when the research would already be completed, so that any positive effects would be due to the instructional packets. All teachers were also informed about the syllabus change.

Treatment Materials and Process

After the pretreatment materials were given and process controlled, the instructional phase started. First, instructional days were arranged and classroom teachers were informed. Second, after the laboratory program was set and assessment days were clarified, classroom teachers were informed. For two consecutive days, each class received four hours of instruction. The researcher himself gave all the instructions in 32 class hours for two weeks (see table 2 for the summary timeline of the research), so that any other negative effect from the inclusion of different teachers was prevented.

When the researcher was doing the activities, the regular classroom teacher stayed in the class to observe the researcher (i.e., to control whether he strictly followed the principles specific to each instructional packet or had a bias towards any instructional packet). When observing the teacher filled out a checklist either for PI or for PBI group activities (see the appendix I and J for the checklist). As the number of the classes was too high for one teacher to teach eight instructional classes, it started first with PI groups and then was followed by PBI groups (see table 2 for the summary timeline of the research).

On the first and second day of the research, PI groups did the instructional activities in packet A. The only difference between PI+EI and PI-EI groups was the availability of

the EI handout. One day after the instructions, immediate posttest was given to PI groups; after three weeks, delayed posttest.

The procedure was similar for PBI groups. They received packet B. PBI+EI classes were first given explanation about the target structure and then pushed to produce it in meaningful contexts. PBI-EI classes were not given explicit explanation of the target structure but they did the same activities as in PBI+EI classes. Immediate posttest was given one day after the instructions ended and delayed posttest three weeks later.

Feedback was also different for the groups. PI+EI and PBI+EI groups were given explicit feedback especially after the referential activities which have either right or wrong answer. The end of the whole activity was not waited for the feedback; rather it was immediately after each sentence. When the response was incorrect, the learner(s) were asked whether he/she thought it was correct or incorrect and thus required to reformulate or restate the sentence. However, PI-EI and PBI-EI groups received implicit feedback. In other words, right or wrong answer was also instructed to the learners but they were not forced to reformulate their utterances. They were expected to understand and establish form-meaning connection by themselves.

Assessment

Three versions of the same tasks (interpretation and production) were created through split-block design and counterbalanced for the benefit of the study or of 'ruling out possible effects of test item familiarity and test order' (Cheng, 2002, p. 312). In other words, forming different versions prevented the learners from memorizing or being familiar with the same items, thus increasing their performance more over time in the post-test or the delayed post-test (Gipps, 2003).

Table 12. Detailed Overview of the Versions of the Tests

Instructional Classes		Pretest	Postest 1	Postest 2
Class 7	PI+EI	C	B	A
Class 19	PI+EI	C	A	B
Class 15	PI-EI	A	C	B
Class 26	PI-EI	B	C	A
Class 10	PBI+EI	A	C	B
Class 35	PBI+EI	A	B	C
Class 5	PBI-EI	B	A	C
Class 14	PBI-EI	A	B	C
Class 2	Control group	A	C	B

Prior to the study, according to this table, different versions of the tests were copied and prepared to give to the participants. While class 2 received version A, C and B as the pre and posttests respectively, class 5 received version B, A, and C as the pre and posttests respectively. But at the end of the study all the learners had taken the three versions. All the assessment procedure took place in the language laboratory at the prep school. Each test continued for about 30 minutes. In all the tests, learners first started with interpretation (aural and written) tasks and followed production (written and oral) tasks. For the oral production task their speaking performance was recorded.

Scoring

The interpretation task involved two subtasks: aural interpretation and written interpretation. Each had 15 items, of which ten were the target measuring the grammatical structure –ed; five were in English simple present tense in order to disguise the aim of the task. In short, there were 20 target; ten masking items in two tasks.

One point was assigned for each correct answer when the learners indicated the

a) "past" column while listening to sentences in the aural interpretation task

	Mr. Bean	Charlie Chaplin
	(NOW)	(IN THE PAST)
1	_____	_____
2	_____	_____

(8 more correct items)

b) "past life" option while reading statements in the written interpretation task

1. He travelled around the world

   a. past life b. usually does

2. He enjoyed society's love to him

   a. past life b. usually does

(8 more correct items)

The present tense column (e.g. Mr. Bean) in aural interpretation task and present tense option "usually does" in written interpretation task were totally ignored in scoring. As the target items were definite, they did not have partially-correct responses, thus partially-correct credits. For the blank and incorrect response, a score of zero was assigned. Hence, ten was the highest score in each task; twenty in both.

Likewise, the production task had 20 target items in total. It was given in two subtasks: written production and oral production. As the aim here was to push the learners to the production of the target structure –ed, there were not items to disguise the structure. Each task involved ten target items.

One point was assigned for each correct answer when the learners

a) “wrote” sentences with the target structure about a person’s life in the past (written production task)
b) orally “produced” statements with the target structure about a person’s life in the past (oral production task)

Spelling mistakes in written production task were ignored on condition that the target structure was used understandably and thus accepted as a correct response. When the learners correctly pronounced the target structure within the sentence in the oral production task, it was likewise accepted as a correct response. Partially-correct response or thus partially-correct credits were not assigned as the expected structure was definite. When the item was blank or when it was incorrect, a score of zero was given. The top score was ten in each task; twenty in both.

CHAPTER 5 - ANALYSES AND RESULTS

Introduction

This chapter presents the results of the analyses for the effects of various instructional types on the acquisition of English simple past tense regular verb form (–ed) as measured by both interpretation (aural and written) and production (oral and written) tasks in the pre-test, post-test and delayed post-test.

The initial number of participants was 194, of whom two did not consent to be involved into the study and another 27 were removed either because they missed the instructions or because they failed to complete all the tests. The *N* size was 165. Prior to the instructions, the participants received a pretest, from which 21 learners were again removed from the data pool and analyses, as they scored at and above 60% on both interpretation (aural and written) and production (oral and written) tasks. The final *N* size was 144.

Additionally, in order to insure that there were no pre-existing differences before the instructions among the treatment groups and the control group, the pretest scores were further submitted to a one-way ANOVA. The analysis revealed no significant difference among the five groups on Written interpretation, F (4, 144) = 1.31, p = .269, Written production, F (4, 144) = .67, p = .614 and Oral production task, F (4, 144) = 1. 08, p = .371, except for Aural interpretation task, F (4, 144) = 3. 18, p = .015). To find out the main underlying reason of this difference among the groups on Aural interpretation task, a *post hoc* Tuckey analysis was conducted and it showed that the difference was caused only by PI-EI and PBI+EI group means (p < .014), the comparison of which was not the main aim of the present dissertation. Therefore, after all these analyses, it can be firmly stated that all the comparison groups started at the same level of knowledge of the target

grammatical structure before they received instructions, thereby leading to assume that any gains in their increased performance were due to instructional treatment type.

Upon establishing the equality of the mean scores among the instructional groups and the control group, the data were now ready to run descriptive and inferential statistics to compare their effects over time. Descriptive and inferential statistics were conducted for the final *N* size. The results were obtained from a series of 5 × 3 ANOVA with repeated measures for the instructional Groups (between-groups variable) and for the Tests (within-groups variable) – pretest, posttest 1 and posttest 2.

At the end, this chapter is divided into two main sections: a) results for the interpretation tasks; b) results for the production tasks, and their subsections, each of which separately explored whether the instructional types led to increased performance on the aural interpretation task, written interpretation task, written production task and oral production task.

The analyses were performed for all the experimental Groups and the control group on all the tests. The analyses first of all revealed any effect of EI within PI groups (PI+EI; PI-EI) and PBI groups (PBI+EI; PBI-EI) (first and second research question, respectively). Then it showed any significant difference between the PI+EI and PBI+EI group and between the PI-EI and PBI-EI group (third and fourth research question, respectively). The final analyses showed how much the learners were able to sustain their improvement from pretest to posttest 1 and posttest 2 after a three-week period (fifth research question).

Results for the Interpretation Tasks

The highest score in Interpretation tasks was 20; ten for the aural interpretation, ten for the written interpretation task. The descriptive statistics for both aural and written interpretation task scores are displayed in table 13. For instance examining the four

instructional groups and the control group data on the posttest reveals that the mean of the PI+EI (M = 18.54, SD = 1.48), PI-EI (M = 18.97, SD = 1.58), PBI+EI (M = 15.22, SD = 4.35), PBI-EI (M = 17.50, SD = 2.90) is higher than the control group (M = 10.75, SD = 3.02), thus the common sense notion that instructional activities whether PI or PBI with and without EI might affect learners' interpretation performance appears to be supported. This was the same case on the delayed posttest such as participants in PI+EI (M = 18.43, SD = 1.85), PI-EI (M = 18.56, SD = 2.70), PBI+EI (M = 17.13, SD = 4.31), PBI-EI (M = 17.69, SD = 3.31) were able to maintain their posttest scores over a three-week period much more than those in the control group (M = 11.44, SD = 3.14). Put simply, the table shows that all the instructional groups improved their performance more than the control group from pretests to posttest 1 (one day after instructions) and posttest 2 (three weeks later).

Table 13. Mean Scores for both Aural and Written Interpretation Task by Treatment Group and Time

	Pretest		Posttest		Delayed Posttest	
	Mean	SD	Mean	SD	Mean	SD
PI+EI	12.57	4.27	18.54	1.48	18.43	1.85
PI-EI	12.91	4.00	18.97	1.58	18.56	2.70
PBI+EI	10.03	4.02	15.22	4.35	17.13	4.31
PBI-EI	12.78	3.89	17.50	2.90	17.69	3.31
Control	11.75	3.26	10.75	3.02	11.44	3.14

Note: PI+EI = 28; PI-EI = 32; *PBI+EI = 32; PBI-EI = 36; Control = 16*

In order to explore whether the instructional groups showed a significant improvement on the interpretations tasks, a 5 × 3 ANOVA with repeated measures was run for each of the five groups. A main effect was found for within-subjects variable Test, F (2, 144) = 129.47, p<0.001 η^2=0.48, a main effect for the between-subjects variable Group, F (4, 144)

= 15.48, $p<0.001$ $\eta^2=0.31$ and a significant Test × Group interaction, F (8,144) =8.43, p <0.001, $\eta^2=0.20$

Tukey HSD post hoc analysis was further conducted to find out the main effect for the between-subjects variable Group and it revealed the following significant between group contrasts: (a) all the instructional groups achieved higher scores than the control group. PI+EI vs. the control group *(M_{diff}* = 5.1994, p = .001); PI-EI vs. the control group *(M_{diff}* = 5.5000, p = .001); PBI+EI vs. the control group *(M_{diff}* = 2.8125, p = .05); PBI-EI vs. the control group *(M_{diff}* = 4.6782, p = .001) (b) PI+EI group outperformed PBI+EI group *(M_{diff}* = 2.3869, p < .05) (c) PBI-EI group also performed better than PBI+EI group *(M_{diff}* = 1.8657, p < .05). No other significant contrasts were found.

In order to arrive at more detailed answer to which assessment measurement the groups differed from one another (e.g., PI+EI>PBI+EI) or from the control group, further analyses were conducted for both aural interpretation and written interpretation task separately.

The results are provided for each task.

Results for the Aural Interpretation Task

The descriptive statistics for the aural interpretation task are presented in table 14 and Figure 3. The statistics show us that four general trends can be observed among the treatment groups. First, all instructional groups made immediate gains at the time of posttest 1 (one day after treatment). Second, all groups performed significantly better in the delayed posttest than they were in the pretest. Third, only PBI+EI and PBI-EI groups showed higher performance from posttest 1 to posttest 2. Fourth, control group did not progress as well as the instructional groups on all the tests.

Table 14. Mean Scores on the Aural Interpretation Task by Treatment Group and Time

	Pretest		Posttest		Delayed Posttest	
	Mean	SD	Mean	SD	Mean	SD
Aural Interpretation						
PI+EI	5.89	2.283	8.75	1.43	8.46	1.835
PI-EI	6.13	2.254	9.25	1.27	8.91	1.445
PBI+EI	4.16	2.641	6.59	3.004	8.84	1.886
PBI-EI	5.53	2.667	8.44	2.063	8.78	1.57
Control	5.00	2.129	5.06	1.914	5.31	2.056

Note: PI+EI = 28; PI-EI = 32; *PBI+EI = 32; PBI-EI = 36; Control = 16*

In order to determine whether the treatment type leads to a significant improvement on the aural interpretation task, separate ANOVAs with repeated measures were conducted for each of the five groups (PI+EI, PI-EI, PBI+EI, PBI-EI and Control). Main effects for Test (from pretest to post 1 and 2) were found for all four of the instructional groups and control group: PI+EI, $F(2,28) = 22.92$, $p<0.001$ $\eta^2=0.46$; PI-EI, $F(2,32)=9.93$, $p<0.001$ $\eta^2=0.24$; PBI+EI, $F(2,32)=44.89$, $p<0.001$ $\eta^2=0.59$; PBI-EI, $F(2,36)=36.76$, $p<0.001$ $\eta^2=0.51$ and Control, $F(2,16)=4.77$, $p<0.05$ $\eta^2=0.24$.

To examine the effect for Test for each of the treatment groups, pairwise comparisons with a Bonferroni adjustment for multiple comparisons were conducted to determine the differences among each test. The significant findings appear in table 15. This table also confirmed the descriptive statistics above, stating that the performance of all groups increased after they received instructions on the immediate posttest. In addition, all groups, other than the PI-EI group, made greater gains in the delayed posttest than they were in the pretest.

On the other hand, when their performance was compared from immediate posttest to the delayed posttest, groups differed: PI+EI and PBI-EI groups sustained their gains;

PBI+EI gained higher ability over time; PI-EI group decreased its performance. At no time did the control group perform better than the instructional groups.

Table 15. Pairwise Comparisons between Aural Interpretation Task by Treatment Group

Group	Mean Difference	*P*
PI+EI		
T2>T1	2.86	<0.001
T3>T1	2.57	<0.001
PI-EI		
T2>T1	3.13	<0.05
T2>T3	2.50	<0.05
PBI+EI		
T2>T1	2.44	<0.001
T3>T1	4.69	<0.001
T3>T2	2.25	<0.001
PBI-EI		
T2>T1	2.92	<0.001
T3>T1	3.25	<0.001
Control		
T3>T1	3.66	<0.05

Next, to examine whether instructional types are comparable, a 5 × 3 ANOVA with repeated measures was conducted on the data for all of the groups on all tests. The between-groups variable was Group and the within-groups variable was Test. The repeated-measures ANOVA revealed a main effect for the within-subjects variable Test, F (2,144) =91.07, p <0.001, η^2=0.40; a main effect for the between subjects variable Group, F (4,144) =12.98, p <0.001, η^2=0.27; and a significant Test × Group interaction, F (8,144) =6.35, p <0.001, η^2=0.15. The Group × Test interaction is displayed visually in Figure 3.

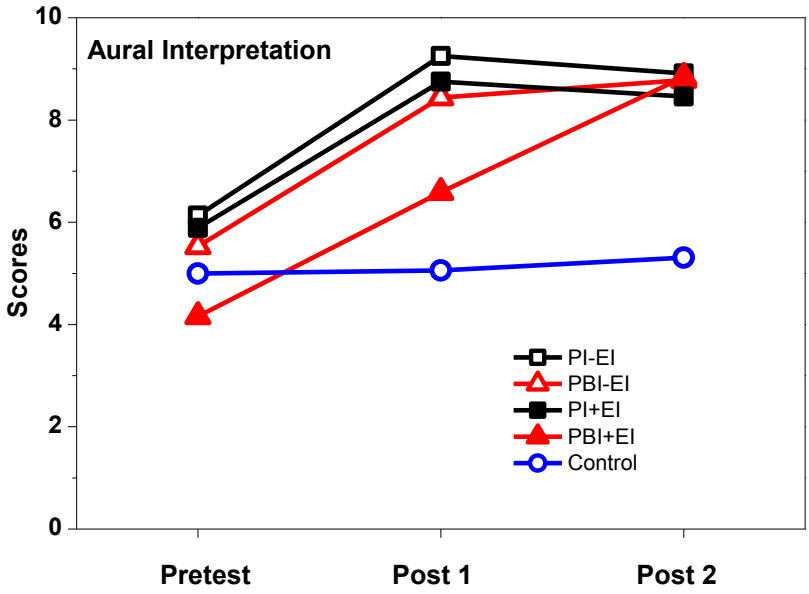


Figure 3. Group × Test interaction on the aural interpretation task

To examine the main effect for Group, Tukey HSD post hoc analyses revealed the following significant between group contrasts: (a) all the instructional groups outperformed the control group. PI+EI vs. the control group (M_{diff} = 2.58, p = .001); PI-EI vs. the control group (M_{diff} = 2.97, p = .001); PBI+EI vs. the control group (M_{diff} = 1.41, p = .05); PBI-EI vs. the control group (M_{diff} = 2.46, p = .001). However, as for the difference among them, the only difference was found between PI+EI and PBI+EI group. PI+EI group outperformed PBI+EI group (M_{diff} = 1.17, p < .05). No other significant contrasts were found.

For the main effect for Test, pairwise comparisons with a Bonferroni adjustment for multiple comparisons revealed the following differences: scores on posttest 1 (immediate posttest) were greater than pretest, M_{diff} = 2.28, p < .001; scores on posttest 2 (three weeks after treatment) were greater than pretest, M_{diff} = 2.72, p < .001.

In order to explore the Group × Test interaction, two separate one-way ANOVAs were conducted for each posttest. For the ANOVAs, main effects were obtained for Group: posttest 1: F (4, 16.091) = 68.16, $p < .001$. Posttest 2: F (4, 14.40) = 43.05, $p < .001$.

At posttest 1, the Tukey's HSD revealed that the PI+EI group outperformed the PBI+EI group, M_{diff} = 2.16, $p < .001$. In addition, PBI-EI group also performed better than the PBI+EI group M_{diff} = 1.85, $p < .05$. When compared with the control group, the three groups performed better than the control group: PI+EI vs. the control group, M_{diff} = 3.69, $p < .001$; PI-EI vs. the control group, M_{diff} = 4.19, $p < .001$; PBI-EI vs. the control group, M_{diff} = 3.38, $p < .001$. However, significant difference was not found between the PBI+EI group and the control.

At posttest 2, all the instructional groups performed equally well and better than the control group: PI+EI vs. the control group, M_{diff} = 3.15, $p < .001$; PI-EI vs. the control group, M_{diff} = 3.59, $p < .001$; PBI+EI vs. the control group, M_{diff} = 3.53, $p < .001$; PBI-EI vs. the control group, M_{diff} = 3.47, $p < .001$. A summary of these findings is displayed in table 16.

Table 16. Summary of Comparisons between Treatment Groups on the Aural Interpretation Posttests

Posttest 1		Posttest 2	
Contrast	*P*	Contrast	*P*
PBI-EI > PBI+EI	< 0.05	PI+EI > Control	< 0.001
PI+EI > PBI+EI	< 0.05	PI-EI > Control	< 0.001
PI+EI > Control	< 0.001	PBI+EI > Control	< 0.001
PI-EI > Control	< 0.001	PBI-EI > Control	< 0.001
PBI-EI > Control	< 0.001		

Summary of Aural Interpretation Task Results

a) The results suggest that all the instructional groups improved their pretest scores more than the control group on the posttest 1 immediately after they received instructions and on the delayed posttest irrespective of whether it is processing instruction with EI or without EI and production-based instruction with EI and without EI.

b) To learn about greater effects of Input and Output on the acquisition of English simple past verbs morphology, PI groups were compared to PBI groups, and the results showed that

- Only PI+EI obtained statistically higher scores than the PBI+EI group in the immediate posttest only. (First research question)
- There was no significant difference between PI-EI and PBI-EI groups. (Second research question)

c) To learn about the role of EI, PI with EI and without EI groups and PBI with EI and without EI groups were compared alone, and the results revealed that

- PI+EI had equal performance to PI-EI, thus meaning that structured input itself was sufficient for the PI groups to process and interpret the English simple past tense verb morphology equally well and thus EI was not necessary for PI groups. (Third research question)
- Likewise, PBI+EI group performed as equally as PBI-EI group, thus again proving that EI did not contribute to the aural interpretation of the target structure.
- After a separate analysis on Posttest 1, the fact that PBI-EI group scored better than the PBI+EI group further showed that structured output was itself sufficient to interpret the target structure more correctly. That is, EI was not necessary for PBI groups. (Fourth research question)

d) In the long run, instructional groups such as PI+EI and PBI-EI were able to sustain their improvement in the delayed posttest, except for PI-EI which decreased its performance after a three-week interval. What was found more interesting among the groups is that only PBI+EI improved its immediate performance in the delayed posttest after three weeks. (Fifth research question)

All these results suggest that Input group receiving PI+EI did better than the Output group receiving PBI+EI on the aural interpretation task (first research question). However, the same result was not found when the groups without EI were compared to each other (second research question), which thereby showed that EI is beneficial enough for VanPatten's PI to outperform PBI on aural interpretation task.

On the other hand, EI was found so unnecessary when we compared to PI groups alone (third research question) and PBI groups alone (fourth research question).

Results for the Written Interpretation Task

Descriptive statistics appear in table 17 and figure 4 below. The table indicates that firstly all instructional groups improved from pretest to immediate posttest after instructions. Secondly, only PI+EI showed a steady increase from posttest 1 to delayed posttest over a three-week period. As for the control group, its performance decreased from pretest to posttest 1 and posttest 2.

Table 17. Mean Scores on the Written Interpretation Task by Treatment Group and Time

	Pretest		Posttest		Delayed Posttest	
	Mean	SD	Mean	SD	Mean	SD
Written Interpretation						
PI+EI	6.68	2.611	9.79	0.686	9.96	0.189
PI-EI	6.78	2.721	9.72	0.683	9.66	1.428
PBI+EI	5.88	2.379	8.63	2.06	8.28	3.061
PBI-EI	7.25	2.5	9.06	1.926	8.92	2.103
Control	6.75	2.049	5.69	2.272	6.13	1.893

Note: PI+EI = 28; PI-EI =32; PBI+EI = 32; PBI-EI =36; Control = 16

Separate ANOVAs were conducted for each of the five groups to decide whether the instructions they were exposed to lead to an increased performance for them. The analysis showed a main effect for all four of the instructional groups and the control group: PI+EI, $F(2,28)=44.92$, $p<0.001$ $\eta^2=0.63$; PI-EI, $F(2,32)=35.42$, $p<0.001$ $\eta^2=0.53$; PBI+EI, $F(2,32)=15.45$, $p<0.001$ $\eta^2=0.33$; PBI-EI, $F(2,36)=11.22$, $p<0.001$ $\eta^2=0.24$; Control, $F(2,16)=16.12$, $p<0.001$ $\eta^2=0.52$

Pairwise comparisons with a Bonferroni adjustment for multiple comparisons were conducted to examine differences among each test and to analyze the effect of Test for each of the five groups. Findings appear in table 18. The table indicates that on the written interpretation task, the learners in all four of the instructional groups increased their performance from pretest to posttest 1 after instructions and to posttest 2 three weeks later. However, the control group did not perform as well as the other groups on all the tests, thereby displaying the importance of instruction to interpret the target structure.

Table 18. Pairwise Comparisons between Written Interpretation Task by Treatment Group

Group	Mean Difference	*P*
PI+EI		
T2>T1	3.11	<0.001
T3>T1	3.29	<0.001
PI-EI		
T2>T1	2.94	<0.001
T3>T1	2.88	<0.05
PBI+EI		
T2>T1	2.75	<0.001
T3>T1	2.41	<0.001
PBI-EI		
T2>T1	1.81	<0.001
T3>T1	1.67	<0.001
Control		
T1>T2	2.97	<0.001
T1>T3	3.19	<0.001

In order to examine Group effect and Test effect, a 5 × 3 ANOVA with repeated measures was conducted on the data for all of the groups on all tests. Group was the between-groups variable; Test was the within-groups variable. The analysis found a significant effect for within-subjects variable Test, $F(2,144)=55.14$, p <0.001, $\eta^2=0.28$; a main effect for between-subjects variable Group, $F(4,144)=10.22$, p <0.001, $\eta^2=0.23$ and a main effect for Test × Group interaction, $F(8,144)=5.97$, p <0.001, $\eta^2=0.15$. The Group × Test interaction is given visually in figure 4.

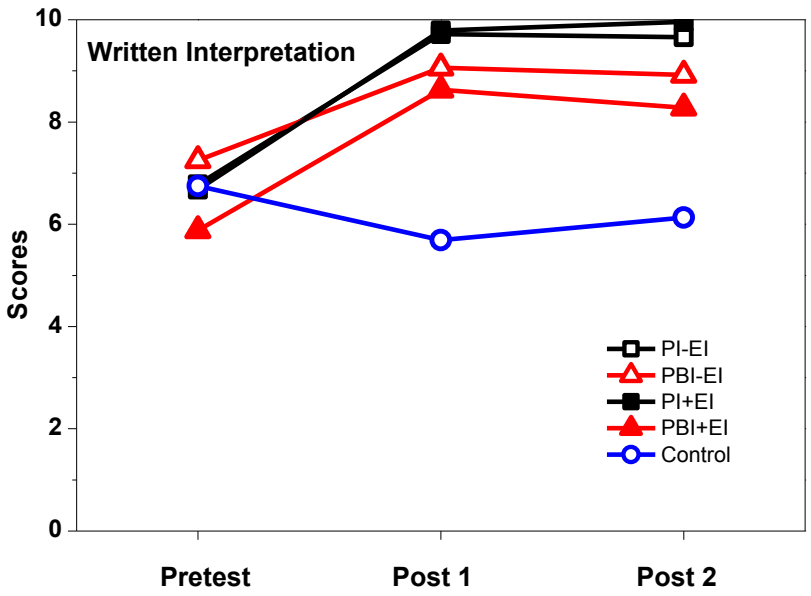


Figure 4. Group × Test interaction on the written interpretation task

Tukey HSD post hoc analyses were performed to find out the main effect for Group and the analyses showed the following significant group contrasts: (a) all the instructional groups outperformed the control group. PI+EI vs. the control group (M_{diff} = 2.62, p = .001); PI-EI vs. the control group (M_{diff} = 2.53, p = .001); PBI+EI vs. the control group (M_{diff} = 1,41, p = .05); PBI-EI vs. the control group (M_{diff} = 2.22, p = .001). (b) However, PI+EI group made higher gains than the PBI+EI group (M_{diff} = 1.22, p < .05). No other significant contrasts were found.

Pairwise comparisons with a Bonferroni adjustment for multiple comparisons showed the following differences for the main effect for Test: Posttest 1 (immediate posttest) scores were better than the pretest scores, M_{diff} = 1.91, p < .001; posttest 2 (delayed posttest) scores were greater than the pretest, M_{diff} = 1.92, p < .001;

Two separate one-way ANOVAs were further conducted for each posttest to determine the Group × Test interaction. The analyses found a significant main effect for

instructional groups: posttest 1: F (4, 20.10) = 52.94, $p < .001$; posttest 2: F (4, 11.41) = 46.21, $p < .001$

The Tukey's HSD conducted on the Posttest 1 indicated that PI+EI group scored higher than the PBI+EI group, M_{diff} =1.16, $p < .05$. In addition, all four of the groups did better than the control group: PI+EI vs. the control group, M_{diff} = 4.01, $p < .001$; PI-EI vs. the control group, M_{diff} = 4.03, $p < .001$; PBI+EI vs. the control group, M_{diff} = 2.94, $p < .001$; PBI-EI vs. the control group, M_{diff} = 3.37, $p < .001$.

At posttest 2, similar to posttest 1, PI+EI group scored higher than the PBI+EI group, M_{diff} =1.68, $p < .05$. Furthermore, the instructional groups outperformed the control group: PI+EI vs. the control group, M_{diff} = 3.84, $p < .001$; PI-EI vs. the control group, M_{diff} = 3.53, $p < .001$; PBI+EI vs. the control group, M_{diff} = 2.16, $p < .001$; PBI-EI vs. the control group, M_{diff} = 2.79, $p < .001$.

Table 19. Summary of Comparisons between Treatment Groups on the Written Interpretation Posttests

Posttest 1		Posttest 2	
Contrast	*P*	Contrast	*P*
PI+EI > PBI+EI	< 0.05	PI+EI > PBI+EI	< 0.05
PI+EI > Control	< 0.001	PI+EI > Control	< 0.001
PI-EI > Control	< 0.001	PI-EI > Control	< 0.001
PBI+EI > Control	< 0.001	PBI+EI > Control	< 0.05
PBI-EI > Control	< 0.001	PBI-EI > Control	< 0.001

Summary of Written Interpretation Task Results

a) The results displayed that the instruction whether processing-based or production-based with and without EI had greater impact on the interpretation of the English simple past

tense verb morphology than the control group both on the immediate posttest and delayed posttest.

b) To learn about greater effects of Input and Output on the acquisition of English simple past verbs morphology, PI groups were compared to PBI groups, and the results showed that

- PI+EI group gained statistically more significant scores than the PBI+EI group not only on the posttest 1 but also on the posttest 2. (First research question)
- The difference between PI-EI and PBI-EI groups was not statistically significant. (Second research question)

c) To learn about the role of EI, PI with EI and without EI groups and PBI with EI and without EI groups were compared alone, and the results revealed that

- PI+EI group scored as equally as the PI-EI group, which proves that EI did not play a significant role for PI groups in order to interpret the target structure. That is, structured input alone was sufficient to alter the learners' default processing strategies. (Third research question)
- Similarly, there was no significant main effect of EI within PBI groups, each having equal scores on all the tests. This result also suggested that structured output alone was sufficient to change the learners' default processing strategies when interpreting the target structure. (Fourth research question)

d) All the instructional groups equally maintained their improvement until the delayed posttest after a three-week period. However, the control group could not remain consistent with its performance from pretest to immediate posttest and delayed posttest. (Fifth research question)

All these results show that Input group receiving PI+EI performed better than the Output group receiving PBI+EI on the written interpretation task (first research question). However, the same outcome was not encountered when the groups without EI were compared to each other (second research question), which thereby showed that EI has a beneficial effect for VanPatten's PI to outperform PBI on written interpretation task both on the immediate posttest and on the delayed posttest in the long run.

On the other hand, EI was found so unnecessary when we compared to PI groups alone (third research question) and PBI groups alone (fourth research question).

Results for the Production Tasks

The highest score in Production tasks was 20; ten for the written production, ten for the oral production task. The descriptive statistics for both written and oral production task scores appear in table 20. The table indicates that the mean scores of all four of the instructional groups PI+EI (M = 10.28, SD = 5.42), PI-EI (M = 12.78, SD = 5.30), PBI+EI (M = 11.72, SD = 5.23), PBI-EI (M = 13.75, SD = 5.25) were able to improve their pretest scores after the instructions on the immediate posttest. However, the control group (M = 5.50, SD = 4.36) did not increase its performance as high as the instructional groups. In addition, the instructional groups PI+EI (M = 12.71, SD = 5.86), PI-EI (M = 13.84, SD = 4.90), PBI+EI (M = 12.03, SD = 5.57), PBI-EI (M = 15.02, SD = 4.02) were able to retain their performance until the delayed posttest after a three-week period. However, the control group (M = 5.00, SD = 3.82) were not able to sustain posttest scores over a three-week period. In fact, the control group did not seem to be consistent with its performance on all the tests.

Table 20. Mean Scores for both Written and Oral Production Task by Treatment Group and Time

	Pretest		Posttest		Delayed Posttest	
	Mean	SD	Mean	SD	Mean	SD
PI+EI	3.21	3.18	10.28	5.42	12.71	5.86
PI-EI	3.34	2.98	12.78	5.30	13.84	4.90
PBI+EI	3.25	3.80	11.72	5.23	12.03	5.57
PBI-EI	3.17	2.72	13.75	5.25	15.02	4.02
Control	3.81	3.33	5.50	4.36	5.00	3.82

Note: PI+EI = 28; PI-EI = 32; *PBI+EI = 32; PBI-EI = 36; Control = 16*

A 5 × 3 ANOVA with repeated measures was conducted for the analysis of both written and production task scores in all the tests for each of the five groups in order to determine whether their increased performances were statistically significant. A main effect was found for within-subjects variable Test, F (2, 144) = 190.01, p<0.001 η^2=0.578; a main effect for the between-subjects variable Group, F (4, 144) = 9.57, p<0.001 η^2=0.216 and a significant Test × Group interaction, F (8,144) =6.88, p <0.001, η^2=0. 165.

In order to reveal group contrasts among each other, Tukey HSD post hoc analysis was additionally conducted, which showed that

(a) all the instructional groups recorded better scores than the control group. PI+EI vs. the control group (M_{diff} = 3.96, p = .05); PI-EI vs. the control group (M_{diff} = 5.21, p = .001); PBI+EI vs. the control group (M_{diff} = 4.22, p = .001); PBI-EI vs. the control group (M_{diff} = 5.87, p = .001)

(b) no statistically significant contrast was found among the instructional groups on production tasks. That is, PI groups performed as well as PBI groups while producing the target grammatical structure.

In order to look into any difference between assessment measurements such as written and oral production task in a more detailed way, further analyses were ran for both separately.

The results are provided for each task.

Results for the Written Production Task

Descriptive statistics appear in table 21 and figure 5 below. The table makes it clear that given their pretest scores, all four of the instructional groups showed greater performance than the control group at the time of the immediate posttest one day after the instructions and on the delayed posttest over a three-week period.

In addition, the instructional groups also progressed from posttest 1 to posttest 2. The control group, however, decreased its performance from pretest to posttest 1 but then scored better on the posttest 2 compared to posttest 1.

Table 21. Mean Scores on the Written Production Task by Treatment Group and Time

	Pretest		Posttest		Delayed Posttest	
	Mean	SD	Mean	SD	Mean	SD
Written Production						
PI+EI	2.39	2.50	5.07	2.81	6.68	2.57
PI-EI	2.06	2.64	6.03	2.40	6.31	2.39
PBI+EI	2.47	2.67	5.44	3.18	6.47	2.83
PBI-EI	2.83	2.39	6.94	2.39	7.58	2.13
Control	3.19	2.81	2.63	1.89	3.13	1.99

Note: PI+EI = 28; PI-EI =32; PBI+EI = 32; PBI-EI =36; Control = 16

For each of the five groups, separate ANOVAs were performed in order to explore whether the instructions helped them to gain higher scores compared to the control group. The analysis found a significant main effect for all four of the instructional groups and for the control as well: PI+EI, $F(2,28)=25.18$, $p<0.001$ $\eta^2=0.48$; PI-EI, $F(2,32)= 36.17$, $p<0.001$

η^2=0.54; PBI+EI, $F(2,32)= 25.37$, $p <0.001$ η^2=0.45; PBI-EI, $F(2,36)= 53.18$, $p <0.001$ η^2=0.60; Control, $F(2,16)= 4.14$, $p <0.05$ η^2=0.22.

To display any differences among each test and to explore their effect for each of the five groups, Pairwise comparisons with a Bonferroni adjustment for multiple comparisons were conducted. Findings appear in table 22.

This table indicates that instructions had greater effect for the groups, allowing them to increase their performance in the pretest to the immediate posttest and delayed posttest. However, only PI+EI group furthered its immediate performance in the posttest 1 over a three-week period in the delayed posttest. The table also makes it clear that the control group only had higher scores from posttest 1 to posttest 2.

Table 22. Pairwise Comparisons between Written Production Task by Treatment Group

Group	Mean Difference	*P*
PI+EI		
T2>T1	2.68	<0.05
T3>T1	4.29	<0.05
T3>T2	1.61	<0.05
PI-EI		
T2>T1	3.97	<0.001
T3>T1	4.25	<0.001
PBI+EI		
T2>T1	2.97	<0.001
T3>T1	4.00	<0.001
PBI-EI		
T2>T1	4.11	<0.001
T3>T1	4.75	<0.001
Control		
T3>T2	2.25	<0.05

A 5 × 3 ANOVA with repeated measures was conducted to find out any Group and Test effect for all of the groups and on all tests. The between-groups variable was Group; the within-groups variable was Test. The analysis found a significant main effect for within-

subjects variable Test, F (2,144) =93.09, p <0.001, η^2=0.40; a main effect for between-subjects variable Group, F (4,144) =6.46, p <0.001, η^2=0.16 and a main effect for Test × Group interaction, F (8,144) =5.38, p <0.001, η^2=0.13. The Group × Test interaction appears visually in figure 5.

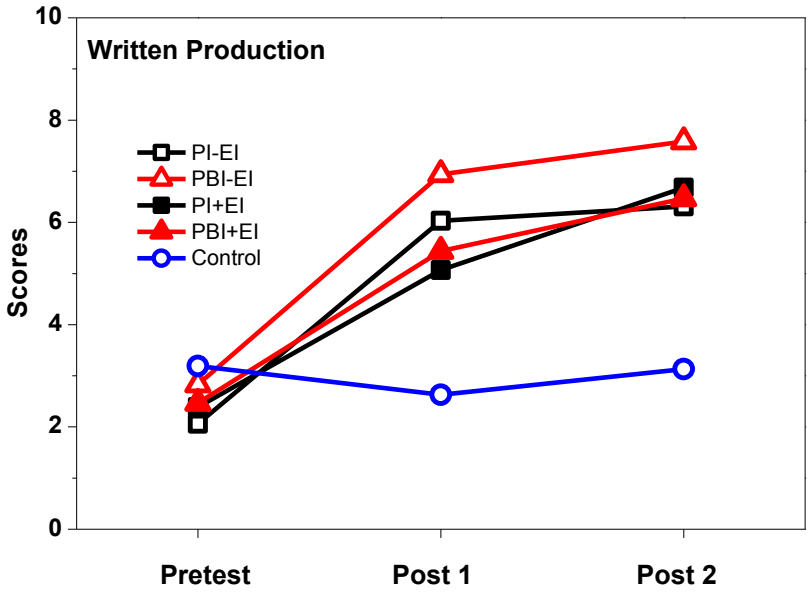


Figure 5. Group × Test interaction on the written production task

In order to reveal any main effect for the Group, Tukey HSD post hoc analyses were conducted and the analyses displayed the following significant contrasts only between the instructional groups and the control group: (a) all the instructional groups outperformed the control group. PI+EI vs. the control group (M_{diff} = 1.74, p < .05); PI-EI vs. the control group (M_{diff} = 1.82, p < .05); PBI+EI vs. the control group (M_{diff} = 1.81, p < .05); PBI-EI vs. the control group (M_{diff} = 2.81, p < .001). (b) On the other hand, the analysis did not find any statistically significant difference among the instructional groups on the written production task.

In order to show the main effect for Test, pairwise comparisons with a Bonferroni adjustment for multiple comparisons were conducted and it showed the following

differences: Posttest 1 (immediate posttest) scores were better than the pretest scores, M_{diff} = 2.63, $p < .001$; posttest 2 (delayed posttest) scores were greater than the pretest, M_{diff} = 3.45, $p < .001$ and the posttest 1, M_{diff} = .81, $p < .05$.

In order to show the Group × Test interaction, further separate one-way ANOVAs were conducted for each posttest. Statistically significant main effect was obtained for the instructional groups: posttest 1: F (4, 8.00) = 55.27, $p < .001$; posttest 2: F(4, 9.50) = 56.14, $p < .001$.

At the posttest 1, the Tukey's HSD displayed that all four of the instructional groups performed better than the control group: PI+EI vs. the control group, M_{diff} = 2.45, $p < .05$; PI-EI vs. the control group, M_{diff} = 3.41, $p < .001$; PBI+EI vs. the control group, M_{diff} = 2.81, $p < .05$; PBI-EI vs. the control group, M_{diff} = 4.32, $p < .001$.

At the posttest 2, all the instructional groups similarly outperformed the control group: PI+EI vs. the control group, M_{diff} = 3.55, $p < .001$; PI-EI vs. the control group, M_{diff} = 3.19, $p < .001$; PBI+EI vs. the control group, M_{diff} = 3.34, $p < .001$; PBI-EI vs. the control group, M_{diff} = 4.46, $p < .001$. No other significant contrasts were found among the groups.

Table 23. Summary of Comparisons between Treatment Groups on the Written Production Posttests

Posttest 1		Posttest 2	
Contrast	*P*	Contrast	*P*
PI+EI > Control	< 0.05	PI+EI > Control	< 0.001
PI-EI > Control	< 0.001	PI-EI > Control	< 0.001
PBI+EI > Control	< 0.05	PBI+EI > Control	< 0.001
PBI-EI > Control	< 0.001	PBI-EI > Control	< 0.001

Summary of Written Production Task Results

a) All four of the instructional groups produced significantly higher than the control group from pretest to immediate posttest 1 and delayed posttest, thereby concretizing the importance of instruction whether PI or PBI with and without EI on helping learners produce the English simple past tense verb morphology.

b) To learn about greater effects of Input and Output on the acquisition of English simple past verbs morphology, PI groups were compared to PBI groups, and the results showed that

- The differences both on the posttest 1 and 2 between PI+EI and PBI+EI (First research question) and between PI-EI and PBI-EI (Second research question) were not statistically significant.

c) To learn about the role of EI, PI with EI and without EI groups and PBI with EI and without EI groups were compared alone, and the results revealed that

- There was no significant difference between PI+EI and PI-EI group (Third research question) and between PBI+EI and PBI-EI group likewise (Fourth research question).

d) Although all three of the instructional groups (PI-EI; PBI+EI; PBI-EI) were able to keep their immediate posttest scores until the delayed posttest after a three-week interval, the fact that only PI+EI group was further finished with higher scores in the delayed posttest was an interesting outcome for this study. (Fifth research question)

To sum up, the results showed that although the Input groups receiving PI (irrespective of EI) were never asked to produce the targeted structure in the instructional stage, they were able to produce as equally well as the Output groups receiving PBI (irrespective of EI) on the written production task (first and second research question). Put

simply, this result showed that structured input is as effective as structured output on the written production task.

However, when the input and output groups were compared alone themselves, EI was not found necessary to help learners produce the target structure for both PI groups alone and for PBI groups alone (third and fourth research question).

Results for the Oral Production Task

The descriptive statistics for the Oral production task appear in table 24 and figure 6. This table clearly displays that all the groups started at a very low level of the target structure, but that they all improved their pretest scores at the time of the posttest 1 and posttest 2. The instructional groups, except for PBI+EI, increased their scores on the posttest 1 (after instructions) until the posttest 2 (after a three-week period). However, the control group decreased its performance from posttest 1 to posttest 2.

Table 24. Mean Scores on the Oral Production Task by Treatment Group and Time

	Pretest		Posttest		Delayed Posttest	
	Mean	SD	Mean	SD	Mean	SD
Oral Production						
PI+EI	0.82	2.29	5.21	4.46	6.04	4.63
PI-EI	1.28	2.40	6.75	4.38	7.53	3.65
PBI+EI	0.78	2.09	6.28	3.69	5.56	4.16
PBI-EI	0.33	0.86	6.81	3.82	7.44	3.33
Control	0.63	1.26	2.88	4.21	1.88	3.76

Note: PI+EI = 28; PI-EI =32; PBI+EI = 32; PBI-EI =36; Control = 16

In order to show any effect of treatment types on learners' performance on the oral production task, separate ANOVAs with repeated measures were conducted for each of the five groups. Significant main effects for Test appeared for all four of the instructional groups and the control group: PI+EI, $F(2,28)=21.88$, $p<0.001$ $\eta^2=0.45$; PI-EI,

$F(2,32)=40.28$, $p<0.001$ $\eta^2=0.57$; PBI+EI, $F(2,32)=30.58$, $p<0.001$ $\eta^2=0.50$; PBI-EI, $F(2,36)=69.37$, $p<0.001$ $\eta^2=0.67$; Control, $F(2,16)=4.03$, $p<0.05$ $\eta^2=0.21$.

In addition, pairwise comparisons with a Bonferroni adjustment for multiple comparisons were conducted in order to examine the Test effect for each of the treatment groups and thus to determine any differences among each test (from pretest to immediate posttest 1 and delayed posttest 2 after three weeks). Significant contrasts are displayed in table 25.

As the table shows, pairwise comparisons indicated two major findings. First, all instructional groups showed higher performance from pretest to posttest 1 and posttest 2. Second, they sustained their performance on the posttest 1 until they received posttest 2 over a three-week period, meaning that they all showed equal performance on the oral prodcution task.

On the other hand, the control group decreased its performance from posttest 1 to posttest 2.

Table 25. Pairwise Comparisons between Oral Production Task by Treatment Group

Group	Mean Difference	*p*
PI+EI		
T2>T1	4.39	<0.001
T3>T1	5.21	<0.001
PI-EI		
T2>T1	5.47	<0.001
T3>T1	6.25	<0.001
PBI+EI		
T2>T1	5.50	<0.001
T3>T1	4.78	<0.001
PBI-EI		
T2>T1	6.47	<0.001
T3>T1	7.11	<0.001
Control		
T3>T2	4.63	<0.05

For all of the groups on all tests, a 5 × 3 ANOVA with repeated measures was conducted. While the between-groups variable was Group, the within-groups variable was Test. A significant main effect was found for within-subjects variable Test, F (2,144) = 120.32, p <0.001, η^2=0.46; a main effect for between-subjects variable Group, F (4,144) =5.72, p <0.001, η^2=0.14 and a main effect for Test × Group interaction, F (8,144) =3.43, p <0.001, η^2=0.09. The Group × Test interaction is displayed visually in figure 6.

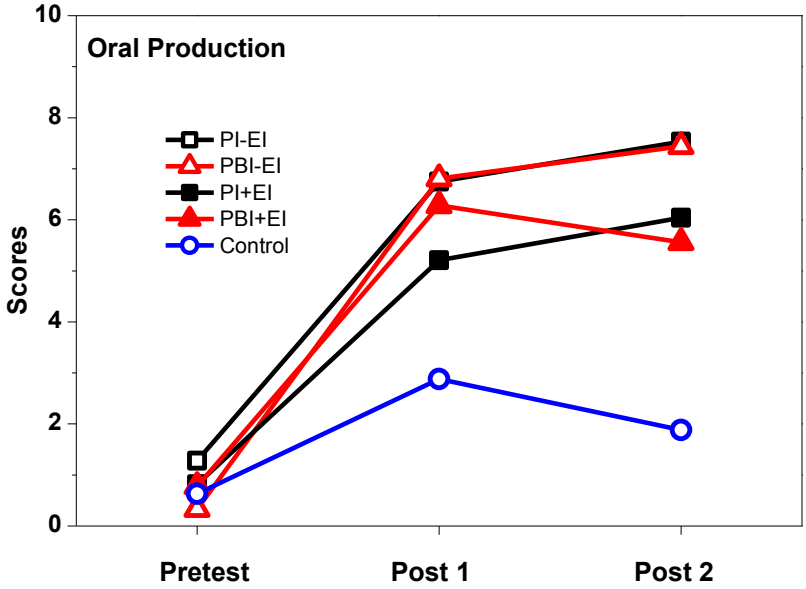


Figure 6. Group × Test interaction on the oral production task

In order to examine any main effect for the Group, Tukey HSD post hoc analyses were conducted. The results were exactly the same as in the written production task. The analyses showed the following significant contrasts only between the instructional groups and the control group: (a) all four of the instructional groups scored higher than the control group. PI+EI vs. the control group (M_{diff} = 2.23, p = .05); PI-EI vs. the control group (M_{diff} = 3.40, p = .001); PBI+EI vs. the control group (M_{diff} = 2.42, p = .05); PBI-EI vs. the control group (M_{diff} = 3.07, p = p = .05). (b) On the other hand, the analysis did not find any statistically significant difference among the instructional groups on the oral production task.

Pairwise comparisons with a Bonferroni adjustment for multiple comparisons showed the following differences for the main effect for Test: Posttest 1 (immediate posttest) scores were higher than the pretest scores, M_{diff} = 4.82, p < .001; posttest 2 (delayed posttest) scores were greater than the pretest, M_{diff} = 4.92, p < .001.

In order to show the Group × Test interaction, two separate one-way ANOVAs were conducted for each posttest. A significant main effect was found for the instructional groups: posttest 1: $F(4, 3.23) = 54.18$, $p < .05$; posttest 2: $F(4, 6.94) = 106.30$, $p < .001$

The Tukey's HSD conducted on the posttest 1 (immediately after the instruction) revealed that (a) no significant differences were obtained among the instructional groups on the oral production task. All performed equal. (b) Only PI-EI and PBI-EI performed significantly better than the control group: PI-EI vs. the control group, $M_{diff} = 3.88$, $p < .05$; PBI-EI vs. the control group, $M_{diff} = 3.93$, $p < .05$. At the posttest 1, no other significant contrasts were found.

At the posttest 2, all the instructional groups outperformed the control group: PI+EI vs. the control group, $M_{diff} = 4.16$, $p < .05$; PI-EI vs. the control group, $M_{diff} = 5.66$, $p < .001$; PBI+EI vs. the control group, $M_{diff} = 3.69$, $p < .05$; PBI-EI vs. the control group, $M_{diff} = 5.57$, $p < .001$. No other significant contrasts were found among the groups.

Table 26. Summary of Comparisons between Treatment Groups on the Oral Production Posttests

Posttest 1		Posttest 2	
Contrast	*P*	Contrast	*p*
PI-EI > Control	< 0.05	PI+EI > Control	< 0.05
PBI-EI > Control	< 0.001	PI-EI > Control	< 0.001
		PBI+EI > Control	< 0.05
		PBI-EI > Control	< 0.001

Summary of Oral Production Task Results

a) The results showed that all the instructional groups increased their pretest scores more than the control group at the time of posttest 1 and sustained their improvement until the delayed posttest over a three-week period.

b) To learn about greater effects of Input and Output on the acquisition of English simple past verbs morphology, PI groups were compared to PBI groups, and the results showed that

- PI+EI and PBI+EI (First research question) and PI-EI and PBI-EI (Second research question) groups did not create a statistically significant main effect both on the posttest 1 and 2.

c) To learn about the role of EI, PI with EI and without EI groups and PBI with EI and without EI groups were compared alone, and the results revealed that

- The differences between PI+EI and PI-EI group (Third research question) and between PBI+EI and PBI-EI group likewise (Fourth research question) were not statistically significant, thereby suggesting that EI was necessary neither for PI groups nor for PBI groups. That is, structured input or output activities alone were sufficient for the learners to be able to produce the English simple past tense verb morphology.

d) As for the long term effect of the instructions, the analyses showed that all instructional groups had higher scores both at the time of immediate posttest and delayed posttest than they were in the pretest. All instructional groups were able to maintain their immediate performance even after a three-week interval in the delayed posttest equally well, thereby indicating that the effects of PI and PBI groups were durable over time on the acquisition of the target structure verb form. (Fifth research question)

To conclude, as in the written production task, the results of the oral production task similarly displayed that although the Input groups receiving PI (irrespective of EI) were never pushed to produce the targeted structure in the instructional stage, they were able to produce as equally well as the Output groups receiving PBI (irrespective of EI) on the

written production task (first and second research question). Put simply, this result displayed that structured input is as effective as structured output on the oral production task.

However, when the input and output groups were compared alone themselves, EI did not create a facilitative or beneficial effect not only for PI groups alone but also for PBI groups alone (third and fourth research question).

CHAPTER 6 - DISCUSSION AND CONCLUSION

Introduction

This chapter provides a discussion of the results of the experiment that compared PI groups (PI+EI, PI-EI) and PBI groups (PBI+EI, PBI-EI) groups both within and between each other. Their performance was further compared with that of a control group class. The chapter begins with a discussion of the results of the experiment by giving the research questions and hypotheses. In order to find more concrete support, after the discussion of the findings, the chapter also gives some theoretical background with previous research studies in the literature. Then, the chapter concludes with some pedagogical implications for English language teachers. Finally, it presents the limitations of the experiment and gives some suggestions for further research.

Research Question 1

Research Question 1(a) was whether PI+EI and/or PBI+EI bring about significantly beneficial effects and improved performance on sentence-level interpretation tasks and according to the research findings in the literature it was predicted that PI+EI would perform better than PBI+EI group from pretest to immediate posttest (PI+EI>PBI+EI). Research Question 1(b) asked which one of the instructional groups makes higher gains on the sentence-level production tasks and based on the previous research it was hypothesized that both groups would achieve equal scores from pretest to immediate posttest (PI+EI=PBI+EI). Answers to the Research Question 3(a) and (b) are Yes; that is, both hypotheses were affirmed at the end of the study.

Immediate posttest results first of all showed that both instructional groups outperformed the control group on both type of tasks, thus indicating that instruction whether through PI+EI or through PBI+EI is effective enough to make learners notice English simple past tense verb form –ed, process and transfer it into their developing system and finally

produce the targeted structure. Secondly, as for the difference between the instructional groups, this study found greater performance of learners exposed to explicit information plus a series of structured input activities (PI+EI) over those receiving explicit information plus structured output activities (PBI+EI) both on the aural and written interpretation task in the immediate posttest (PI+EI>PBI+EI). This result was expected as the instructional type and activities given to PI+EI group were similar to aural and written interpretation task in the immediate posttest. For this reason, the higher improvement of PI+EI group was due to the instructional similarity to the test content. On the other hand, what was unexpected is that although learners in PI+EI were never asked to produce the targeted linguistic form –ed throughout the instructional stage, they were still able to produce the structure on production tasks as well as those in PBI+EI group who had already received a variety of instructional output-based activities (PI+EI=PBI+EI). As with the PI+EI group's better improvement on the interpretation tasks because of the instructional similarity, PBI+EI should naturally have outperformed PI+EI group on the production tasks as the production tasks in the tests similarly biased the outcome toward PBI+EI group. However, it was not the case.

These results first of all corroborated what VanPatten and Cadierno's (1993) original study found years ago. They had studied the acquisition of Spanish clitic object pronouns and the processing problem was the First noun principle. Their study had compared TI and PI and the results showed that PI group outperformed TI on the interpretation task but made equal gains on the production, although at no time did learners in PI produce Spanish object pronouns. VanPatten and Cadierno (1993, p. 54) suggested that 'instruction as direct intervention on a learner's strategies in input processing should have a significant effect on the learner's developing system.' They claimed that it would be much more beneficial for L2 learners to internalize the structure when learners are helped to perceive and process input rather than make them practice the language through production or output based instruction.

They supported PI because it provided ‘a double bonus’ (p. 54) for learners because as soon as they changed their default processing problem through PI, on the one hand they were able to interpret the targeted structure and produce it on the other.

This result was further supported by some of the earlier research (for instance, VanPatten and Sanz, 1995; VanPatten and Fernandez, 2004; VanPatten, Inclezan, Salazar and Farley, 2009; Cadierno, 1995; Farley, 2001; Cheng, 2002; Benati, 2001; 2005; Qin, 2008). Involving a complex and problematic structure into his study (such as Spanish subjunctive), Farley (2001) found similar superior effect of PI over learners in MOI group on the interpretation task and equal performance on the production. Farley also stated that ‘PI is compatible with a grammar point that is both linguistically and psychologically complex (p. 296). Cheng (2002, p. 317) investigated another complex structure (*ser* and *estar*) in Spanish and found similar results. Benati (2001, p. 96) found how PI effective as ‘it provides a more direct route for the learner to convert input to intake.’ In another study, Benati (2005, p. 84) claimed that ‘input practice should precede output practice’ in language teaching and in his study as PI group outperformed MOI group on the interpretation task, Benati suggested that ‘structured input activities are the causative factor in the improved performance of learners (p. 85). Using another different type of production-based instruction, Qin (2008) was among the first few to make comparison of PI and DG activities given to young beginning-EFL learners in China and she found greater effect of PI on the interpretation task in the immediate posttest and equal effect of both groups on production. Still, Qin (2008, p. 61) suggested that ‘both PI and DG are effective pedagogical tools to help beginning-EFL learners to acquire target grammatical forms.’ VanPatten and Uludag (2011, p. 52) argued that ‘PI, as a classroom treatment for focusing on form (not skill), is sufficient for classroom learning environments’, ‘carefully constructed PI can result in real changes’ and ‘PI is one more technique that instructors can make use of as they construct curricula that best serve their needs.’

All in all, this study confirmed the findings of the earlier research in the literature mentioned above. The results displayed that components of PI (i.e. explicit information and structured input activities) were sufficient to help learners circumvent their default processing problems and finally achieve higher scores than those of PBI (i.e. explicit information and structured output activities) on the interpretation tasks. As stated earlier, this was natural for PI+EI group as the contents of the tasks in the tests were exactly similar to the tasks in their instructional packet. However, it was surprising and unnatural for PBI+EI group not to outperform PI+EI group on the production tasks, although contents of their instructional packet and tests shared striking similarity. In other words, although PBI+EI group were always pushed to produce the targeted structure during instruction, on the production tasks they could not score better than PI+EI group who were never asked to produce in the instructional stage. The answer to the Research Question 1(a) and (b) may be that PI+EI is generally more effective for comprehension than PBI+EI and as equally effective as PBI+EI to direct learners' attention to produce the form and get its meaning (regular verb form –ed in this study) for Turkish learners of English.

Research Question 2

Research Question 2(a) asked whether structured input alone (PI-EI) and/or structured output alone (PBI-EI) bring about significantly beneficial effects and improved performance on sentence-level interpretation tasks. Although there is not a study yet making such a comparison of PI-EI and PBI-EI groups in the literature, based on the Research Question 1(a) and its findings, it can be predicted that learners exposed to structured input activities alone would perform better than those receiving structured output activities only (PI-EI>PBI-EI). Furthermore, Research Question 2(b) investigated which one of the instructional groups provides more beneficial effects and improved performance on sentence-level production tasks and based on the Research Question 1(b) and its findings, both groups were

hypothesized to produce the target regular verb form equally well on the production tasks (PI-EI=PBI-EI). However, according to the results of the study, answer to the Research Question 2(a) is No; whereas answer to the Research Question 2(b) is Yes.

On the interpretation task; Research Question 1(a) explored that PI+EI scored higher than PBI+EI group (PI+EI>PBI+EI), thus revealing the superiority of PI+EI over PBI+EI to help learners perceive and process the input and then transfer it into their developing system. When this result is considered; that is, if PI+EI performed better than PBI+EI (RQ1a), then PI-EI should outperform PBI-EI likewise (RQ2a). However, this was not the case in the study. The results for the RQ2 (a) showed that both groups improved equally well on the interpretation tasks from pretest to immediate posttest (PI-EI=PBI-EI). This result displayed that EI does play an important role for the benefit of PI groups to be able to perform better than PBI groups. In other words, the comparisons between PI and PBI groups showed that when EI was not added as a separate component to the instructional sequence for PI and PBI groups, they performed equally (RQ2a) well but when EI was added in the instructional packet, learners in PI+EI performed better than those in PBI+EI group (RQ1a) on interpretation tasks. Bearing this result in mind, one can easily state that EI plays a very important role for the benefit of VanPatten's Input processing model (see figure 7), because this study revealed that on the interpretation tasks to be able to perform better than the output groups such as PBI, the input groups receiving PI packet (prepared according to VanPatten's Input processing principles) needed one more component: Explicit Information. Without it, PI groups (PI-EI) were not able to gain higher scores than PBI-EI groups.

Many SLA researchers accept the role of EI in language development as it provides noticing the forms in the input (e.g., DeKeyser, 2003; Doughty and Williams, 1998b; Ellis, 2002a, 2002b; Hulstijn and de Graaff, 1994; Long, 1991). Somewhat more specifically, some of the earlier PI studies (for instance, Fernandez, 2008; Culman et al., 2009; Henry et al.,

2009; VanPatten et al., 2013) compared PI with and without explicit information groups to learn about whether the improved performance is due to the involvement of EI into the instructional sequence or due to the structured input activities alone in PI. The findings of this dissertation corroborated the beneficial effect of EI in PI as with the other abovementioned studies; but in a different research design: while those studies above compared PI groups with and without EI only, this study compared PI groups with and without EI and PBI groups with and without EI. When the studies are looked into detail, the effectiveness of EI could be easily noticed. For example, for the first time, Fernandez (2008) used "E-prime" and measured learners' performance by 'trials to criterion', a tool to measure the number of structured input activities that participants completed until they reached criterion. In the study, PI+EI and PI-EI groups were compared and it was found that PI+EI group reached significantly higher number of criterion and accuracy and responded in less time than PI-EI group especially in the second experiment on Spanish subjunctive (PI+EI>PI-EI), which thereby showed that EI was 'beneficial for the correct processing of the subjunctive' (p. 595). She further argued that EI was 'beneficial to induce noticing of the target forms and thus to promote the connection between the main clause meaning and the verb inflection' (p. 296) and/or 'beneficial for processing of nonsalient forms, depending on the task, the processing problem, or both.' (p. 299) As in Fernandez's study, Culman et al. (2009) used *E*-prime and focused only on trials to criterion scores of English learners of German. The target structure was the German word order. PI+EI and PI-EI were compared and found that PI+EI group outperformed PI-EI (PI+EI>PI-EI), thus showing that 'explicit information speeds up the processes underlying acquisition (p. 28) where the target is OVS and German case markings and that 'EI does have a positive effect on the participants' tendency to rely on the first noun to assign grammatical roles' (p. 28). Culman et al. finally argued that EI is effective within PI and that 'providing learners with explicit information on linguistic form is not necessarily a priori a waste of time

as claimed by some'(p. 29). In another replication study, Henry et al. (2009) similarly investigated the role of EI within PI using same measurement tool and processing problem. They found that learners receiving an additional EI in PI performed better than those who did not receive EI (PI+EI>PI-EI), thus claiming that 'EI does have a facilitative effect for L2 German learners with PI.' (p. 571) More recently, VanPatten et al. (2013) further investigated the role of EI within PI groups in different languages such as Spanish, German, Russian and French. They found the greater advantage of PI+EI group over PI-EI in German word order and French causative (PI+EI>PI-EI), thus one more time revealing that 'EI may produce differential effects depending on the intersection of the processing problem and the particular structure' (p. 509). VanPatten et al. argued that the changeable function of EI does not mean there is no role of EI within PI. They acknowledged that 'the previous research findings were not spurious' (p. 516) and 'in learning to process OVS sequences in German correctly, EI clearly speeds up the process' (p. 516) and 'EI is a significant factor in processing causative sentences in French L2.' (p. 520)

Bearing in mind that all these studies made comparisons of PI with and without EI groups alone and that they all consistently found the beneficial effect of EI in PI, one can easily notice that this dissertation was among the first to have found the role of EI in PI when it made comparisons of PI+EI and –EI groups and PBI+EI and –EI groups. It did find that when EI was added as a separate instructional component into the PI packet, learners performed better than those receiving PBI+EI packet (RQ1a). However, when EI was removed from the PI packet, learners this time performed as equally well as those receiving PBI-EI packet (RQ2a). This result showed that EI certainly plays a significant role in PI on the interpretation tasks and thus that structured input alone may not provide learners to change their default processing problem when learning English simple tense verb form –ed.

On the other hand, hypothesis to the Research Question 2(b) is affirmative. As with the comparison of PI+EI and PBI+EI groups and its result in the first research question, learners in PI-EI group produced as equally as those in PBI-EI group (PI-EI=PBI-EI). That is, although PI-EI learners were never asked to produce the target regular verb form –ed in the instructional stage, they were still able to perform as well as those receiving structured output activities in PBI-EI group on the production tasks. From this point of view, this outcome was similar to the results found in RQ1(b), showing that it is because of structured input activities and of structured output activities alone not because of EI that learners were able to produce the target linguistic feature. This finding corroborated the earlier research findings as well (for instance, VanPatten and Cadierno, 1993; VanPatten and Sanz, 1995; Cadierno, 1995; Collentine, 1998; Farley, 2001; Benati, 2001; Cheng, 2002; VanPatten and Wong, 2004; VanPatten and Fernandez, 2004; Benati, 2005; Qin, 2008; VanPatten, Farmer and Clardy, 2009; VanPatten, Inclezan, Salazar and Farley, 2009).

It was not natural that PBI-EI group could not achieve higher scores than PI-EI on the production task from pretest to immediate posttest, as what they (PBI-EI) all did was to produce the target form in meaningful and communicative structured output activities in the instructional period. Bearing the fact that PI-EI learners practiced the regular verb form at no time throughout the instructional stage, one could then argue that PI-EI (structured input activities only) was sufficient for learners to produce the targeted structure. The answer to the argument may be then that structured input activities are as equally effective as structured output activities even for the improvement at production tasks. VanPatten and Cadierno (1993, p. 54) for instance claimed that PI (irrespective of EI) provides a double bonus for the learners: ‘better processing of input and knowledge that is apparently also available for production.’ Lee and Benati (2009) support PI and define it stating that ‘it is a communicative approach to grammar teaching as one of its goals is to increase learners’ opportunities to

receive good comprehensible and meaning bearing input (p. 38). In addition, it can 'make redundant and non-salient grammatical meaning–form relationships more salient in the learner's input' (p. 75) and 'offer the opportunity to interpret the meaning–form relationship correctly without any practice in producing the targeted form or structure. (p. 75). They maintain that PI especially structured input activities 'ensure that learners' focal attention during processing is directed toward the relevant grammatical items and not elsewhere in the sentence. (p. 76) VanPatten describes his model of SLA as is: "input provides the data, input processing makes (certain) data available for acquisition, other internal mechanisms accommodate data into the system (often triggering some kind of restructuring or a change of internally generated hypotheses), and output helps learners to become communicators and, again, may help them become better processors of input." (2002a, p. 760)

That is, VanPatten does not downgrade the role of output in SLA but gives more emphasis to the role of input and his input processing model. He claims that thanks to structured input activities, learners are better able to perceive and process the input, transfer it into the developing system, make some changes by restructuring it and finally produce it in communicative tasks. VanPatten and Uludag (2011, p. 52) suggest that 'PI, as a grammatical intervention, is sufficient to bring about significant change in learner knowledge and ability' and 'learners do not need to produce language to be led to syntactic analyses of language, at least with PI (p. 52)

All in all, the results firstly showed that both PI-EI and PBI-EI group performed better than the control group on both type of tasks in all the tests. Secondly, it was found that EI plays an important role for PI groups especially on the interpretation tasks. In other words, EI was effective and necessary on the interpretation tasks for PI groups to be able to outperform PBI groups (RQ1a). When not added as a component into PI packet, however, PI and PBI groups made similar gains (RQ2a) on the same tasks. On the other hand, the role of EI

whether in PI or in PBI does not help learners produce more than one another on the production tasks, thus showing that structured input and structured output activities provide learners to produce equally well. As a result, in a different research design comparing PI and PBI groups, this study found "facilitative effect" of EI on the interpretation tasks for PI; thus it can be succinctly stated that EI does contribute to better interpretation scores for PI groups over PBI groups but not to the production scores.

Research Question 3

Research Question 3(a) asked whether PI+EI and/or PI-EI bring about significantly beneficial effects and improved performance on sentence-level tasks involving the interpretation of English simple past tense regular verb form (-ed) by Turkish learners of English. Based on the previous research findings, it was hypothesized that both groups of learners, whether PI+EI or PI-EI, irrespective of the role of EI, would have an overall equally improved performance. Research Question 3(b) similarly asked whether the PI groups bring about improved performance on sentence-level production tasks and based on the studies in literature, both PI+EI and PI-EI groups were predicted to gain equal scores while producing the targeted structure. Generally speaking, it was predicted that EI would not contribute to the improvement of learners not only on the interpretation but also on the production task scores. Hypotheses to Research Question 3 (a) and (b) were both affirmed: PI+EI=PI-EI.

The results, first of all, showed that both instructional groups (irrespective of EI) nearly doubled their mean scores on the interpretation and production tasks compared to the control group from pretest to immediate posttest, which meant that PI groups met 'the goal of processing instruction to alter the processing strategies that learners take to the task of comprehension and to encourage them to make better form-meaning connections' (VanPatten, 1996, p. 60). Secondly, the instructional groups did not outperform one another; that is, both PI groups interpreted and produced adequately and equally well to get the meaning of the

regular verb form. Put simply, learners in PI+EI receiving explicit grammar explanation at the beginning and then doing an array of structured input activities improved their performance on the tasks involving both interpretation and production of the targeted structure –ed as well as those in PI-EI receiving structured input activities only. That is, PI groups were found equal on both tasks (PI+EI=PI-EI). This result once more displayed that structured input, not EI, is the most important part of PI that provides learners to change their default processing strategies and make correct form-meaning connection at the end. In other words, structured input was again found to be 'the key factor in pushing L2 learners to make the correct interpretation' (Benati, 2004b, p. 78) in processing instruction. In addition to the interpretation scores, both PI groups also performed equally well in the production tasks. For the questions related to the lack of difference in performance between the PI groups on both type of tasks, Wong (2004b, p. 201) stated that 'the answer may lie in the nature of the structured input activities'.

These results also supported the previous studies (e.g., VanPatten and Oikkenon, 1996; Wong, 2004b; Benati, 2004a&b; Sanz, 2004; Sanz and Morgan-Short, 2004; Farley, 2004b; VanPatten and Borst, 2012). For instance, VanPatten and Oikkenon (1996) in their original research compared PI+EI, PI-EI and EI only groups to measure their improved performance on Spanish object pronouns. Both PI groups either received explicit information or not but both were in common exposed to structured input activities. EI only group was given explicit metalinguistic information only about the structure. Their results showed that both PI groups performed significantly better than the EI only group on both interpretation and production task. In addition, both PI groups did not show significant contrast from one another, thus revealing that it is because of structured input activity not because of EI that learners are able to develop optimal processing strategies while processing and producing the target structure.

Almost all the other studies found no significant effect between PI+EI and PI-EI. For instance, Wong (2004b, p. 203) stated that when input is structured 'form-meaning connections are privileged', 'form-meaning connections are maximized', 'optimal input processing may take place' and finally 'EI is not necessary or even beneficial'. Benati (2004a, p. 212) found equal effect between PI groups and stated that 'PI is designed to cause failure in interpretation at the beginning stages of activities so that the processors can begin to readjust.' And Sanz (2004, p. 254) pointed to the fact that 'it is practice in decoding structured input rather than provision of explicit evidence that is responsible for the effectiveness of PI.' After giving learners structured input activities Sanz gave either explicit or implicit feedback and found out that 'the type of feedback, whether implicit or explicit, produced no differential effects' (p. 254) and thus concluded that 'within PI it is positive evidence alone that leads to a change in processing and consequent L2 development' (p. 256). In their similar research, Sanz and Morgan-Short, (2004, p. 36) likewise argued that 'explicit information may not necessarily facilitate second language acquisition' and 'explicit information may not be necessary to draw attention to form' (p. 72). In another study, although Farley's (2004b) study on Spanish subjunctive found EI important and beneficial, he still admitted that the beneficial effect of EI in PI is 'for some features of language; those that have opaque or semantically non-transparent form-meaning connections (p. 242). Farley pointed to the fact that EI helped PI when the target structure was Spanish subjunctive as in his study and thus concluded that 'structured input is the necessary and sufficient ingredient of PI; for some structures, however, learners may need more structured input than they would otherwise (p. 242). Doughty (2004) found inclusion of the metalinguistic grammar explanation in a PI instructional sequence "superfluous" (p. 264). As for her article's interesting title, Doughty (2004) used 'commentary: when PI is focus on form it is very, very good, but when it is focus on forms…' (p. 261). A distinction between focus-on-formS and focus-on-form was first drawn by

Michael Long (1991, pp. 45-46), who defined focus-on-form succinctly as an approach which '... overtly draws students' attention to linguistic elements as they arise incidentally in lessons whose overriding focus is on meaning or communication'. In other words, focus-on-form emphasizes focus on meaning with attention to form in meaningful communicative context, whereas focus-on-formS approach seems more like a traditional explicit way of grammar teaching in today's language classes (Ellis, 2006). In addition, while focus-on-formS leads to a "temporary influence" (Doughty, 2004, p. 266) on interlanguage development, Ellis (2006, p. 101) argued that focus-on-form 'is best equipped to promote interlanguage development' because it provides learners implicit knowledge through which they both attend to linguistic form and at the same time to meaning in a communicative context. VanPatten and Borst (2012, p. 271) defined PI as 'a specific type of focus on form' which encourages learners to use optimal processing strategies to alter their default processing problems. And the previous research (e.g., VanPatten and Oikkenon, 1996) found out that it is not EI as a component of PI but structured input activity as another component of PI that contributes to L2 learners' interlanguage development. Doughty (2004, p. 268) further suggested that 'metalinguistic awareness and noticing are to be considered different kinds of mental processes' and thus she argued that 'the metalinguistic explanation that precedes structured processing activities is not a necessary component of PI' (p. 268). VanPatten (2004a) similarly stated that the fact that "noticing" occurs does not mean that the learner can establish form-meaning connection for the linguistic feature.

This was the case in the present dissertation. The role of EI was not found important for PI groups, as both groups were found equal (PI+EI=PI-EI) on sentence level tasks involving both interpretation and production of English simple past tense regular verb form. In other words, structured input or focus-on-form activities happened to be sufficient for L2 learners to acquire the targeted structure implicitly. The improved performance of both PI groups was

due to the involvement of structured input activities, not due to the explicit explanation of the target structure.

Research Question 4

Research Question 4(a) explored whether PBI+EI and/or PBI-EI bring about significantly beneficial effects and improved performance on sentence-level interpretation tasks and it was predicted that from pretest to immediate posttest both instructional groups would improve their performance equally well on sentence-level interpretation tasks. Research Question 4(b) likewise investigated whether PBI+EI and/or PBI-EI help learners to circumvent their default processing problems and to produce the targeted structure –ed on sentence-level production tasks from pretest to immediate posttest. It was hypothesized that as with the PI groups with and without EI, learners in PBI (irrespective of EI) would record equal scores on sentence level tasks involving both oral and written production of the target structure –ed in English simple past tense.

Pretest and immediate posttest results of the study indicated that first of all both PBI groups performed better than the control group on both type of tasks. Secondly, the hypothesis to Research Question 4(a) was partially confirmed. Immediate posttest results showed that while learners in PBI-EI outperformed those in PBI+EI on the aural interpretation task, both groups made equal gains on the written interpretation task. This result still showed that the inclusion of EI as one component into PBI did not provide learners an advantage over those who did not receive an additional metalinguistic explanation. The hypothesis to research Question 4(b) was confirmed. The production task scores showed that both groups produced equally well not only on oral but also on written production task (PBI+EI=PBI-EI). The general result of this research is that EI was found so unnecessary to help learners both interpret and produce the targeted structure for PBI groups. In other words, structured output alone was found sufficient for learners to circumvent their default

processing problems. Learners in PBI groups commonly practiced structured output activities as a production-based instruction. What made different the instructional sequence within PBI groups was the availability of EI. While one of the groups was given some explicit grammar information about the targeted structure and made consciously aware of the structure, the other group remained unaware of what they learned and thus could not verbalize it. In short, PBI+EI group received explicit or conscious knowledge, whereas PBI-EI group was exposed to a series of meaningful communicative activities from which they got the meaning of the form and made form-meaning connection implicitly. While giving the instruction, PBI+EI group also took explicit metalinguistic feedback, whereas PBI-EI group received implicit feedback as 'right' or 'wrong' answer. Either because of the positive or because of the negative feedback, learners in PBI-EI group found opportunity to test their hypotheses related to the target structure given in the instructional packet and decoded it as they further produced it. As with the PI groups, provision of explicit evidence plus strategy training did not lead to better improvement for the PBI groups as long as they received structured output activities. This study further showed that it is not because of explicit explanation but because of structured output alone that L2 learners performed significantly better on the interpretation and production tasks than the control group. In addition, learners who did not receive EI in PBI-EI group outperformed those receiving EI in PBI+EI group significantly better on the aural interpretation task in the immediate posttest after the instructions were completed. It was because learners in PBI-EI group were forced to pay attention to meaning first in communicative context and then pushed to produce messages that are precise, coherent and appropriate (Swain, 1985). As Swain (1995, p. 127) put it, 'learners…can fake it, so to speak, in comprehension, but they cannot do so in the same way in production.' That is, although learners do not always make syntactic analyses of the input, they have to process their productions syntactically and thus are forced to pay attention to form. This was the case in the

experiment of this dissertation. It was sufficient for PBI groups to be engaged in structured output activities and thus to make correct form-meaning connection regardless of whether they would receive further explicit grammar explanation or not. Both PBI+EI and PBI–EI groups in common were pushed to produce comprehensible output in meaningful communicative activities either in oral or written way, which helped them focus on their productions, notice the gaps and 'crack the code' (Ellis, 1984, p. 95) by decoding unfamiliar linguistic items and including them to their linguistic competence. Learners' trials to produce the target linguistic feature showed saliency effect (Ellis, 2008). They noticed the –ed form in English simple past tense either in an explicit or implicit way through the activities and as they produced the structure they started to make correct form-meaning connection between the form and its meaning.

Swain (1985) claimed that through comprehensible output learners are better able to move from semantic processing to syntactic processing stage. Swain (2005) gave importance to three functions of output in language development such as a) noticing function, b) hypothesis testing function and c) metalinguistic (reflective) function. After learners notice the "hole" (Doughty and Williams, 1998) in their productions, they 'may bring their attention to something they need to discover about their second language (Swain, 2005, p. 474) which 'triggers cognitive processes that have been implicated in second language learning' (p. 474). Izumi (2002, p. 571) also claimed that 'output processing... pushed... learners further in their cognitive processing and prompted them to perceive or conceive the unitized structure.' In their research, Pica, Holliday, Lewis and Morgenthaler (1989) explored that over one third of learners modified their utterances either semantically or morphosyntactically when they received feedback as clarification requests and confirmation checks. McDonough (2001) argued that modified or structured output can "prime" learners' subsequent production of the target structure. Izumi (2000, p. 101) also supported hypothesis testing function of the output

by stating that ‘it is possible that... the very process of grammatical encoding in production sensitizes the learners to the possibilities and limitations of what they can or cannot express in the target language.’ Izumi further claimed that ‘such sensitization can be heightened by the feedback system available for internal speech and overt speech’ (p. 101). For the metalinguistic (reflective) function of her output hypothesis, Swain (2005, p. 478) claimed that ‘using language to reflect on language produced by others or the self, mediates second language learning.’ Swain (1997) also suggested that making such reflections on the language, L2 learners can gain control over the language and thus internalize their linguistic knowledge. Skehan (1998a) also supported the role of Swain’s output hypothesis, arguing that as learners are pushed to produce, they get the opportunity to practice the targeted structure and as they use it in meaningful contexts they automatize the linguistic feature. Furthermore, Skehan (1998b, pp. 16–22) listed six main contributions of output to language development as:

a) Output generates better input
b) Output promotes syntactic processing
c) Output helps learners test their hypotheses about grammar
d) Output facilitates automatization of existing knowledge
e) Output helps the development of discourse skills
f) Output helps learners “develop their personal voice” by focusing on topics that they are interested in

Skehan argued that production can lead to acquisition. The superior effect of production in order to make form-meaning connection was also found by Swain and her colleagues (for example, Kowal and Swain 1994; 1997).

PBI groups in this study (irrespective of EI) were pushed to practice a series of structured output activities and produce the target linguistic feature –ed in English simple past

tense and both groups were able to become aware of the meaning of the form and produce it much better than the control group. On the other hand, it is also important to bear in mind that although PBI-EI group outperformed PBI+EI in the aural interpretation task only on the immediate posttest, both made equal gains in all the tasks on the delayed posttest. Such a comparison of PBI+EI and PBI-EI groups, according to the knowledge of the researcher, has not yet been made in the literature. However, the findings are not counterintuitive. As with the PI groups (PI+EI and PI-EI), in the development of L2 learners' knowledge of English regular verb morphology, structured output itself (in line with Swain's output hypothesis) played much more important role than explicit grammar explanation both at interpretation (comprehension) and production tasks, thus making EI not necessary for better improvement of learners in PBI groups to make correct form-meaning connection from pretest to posttests.

Research Question 5

Research Question 5(a) asked which one of the instructional groups would retain their improved performance after the instructional stage equally well over a three-week period on the interpretation tasks. Based on the previous PI-based research findings (e.g., VanPatten and Cadierno, 1993; Cadierno, 1995; Farley, 2001; Benati, 2001), it was hypothesized that PI groups (irrespective of EI) would outperform PBI with and without EI groups on sentence level tasks involving the interpretation of the target English simple past tense verb form –ed. Resarch Question 5(b) was whether the same instructional groups would be able to maintain their increased performance on the production tasks until the delayed posttest over a three-week period. Based on the same PI-based research findings, PI groups were predicted to achieve equal scores like PBI groups while producing the target linguistic structure. The answers to the RQ5 (a) was partially confirmed; whereas the answer to the RQ5 (b) were confimed.

In order to analyze the effect of tests for each of the five groups, Pairwise comparisons with a Bonferroni adjustment for multiple comparisons were conducted. The analyses showed that all four of the instructional groups improved their performance in the delayed posttest more than they were in the pretest on both type of tasks. Compared to the immediate posttest:

- On the aural interpretation task, while PBI+EI learners increased their performance, which shows that they acquired the target structure –ed over time, PI-EI decreased their performance over a three-week period, although it was still better than they were in the pretest. On the other hand, PI+EI and PBI-EI groups were able to sustain their development; but still their higher improvement over PBI+EI group in the immediate posttest was short-term. The control group was not consistent among the tests. They made similar gains between pretest and immediate posttest; however, delayed posttest scores were better than that they gained in the pretest.
- On the written interpretation task, the performance of four instructional groups was long-term. They were all able to maintain their improvements until the delayed posttest. As for the better improvement and contrast, it was that PI+EI group performed better than PBI+EI group even in the long run as it was in the immediate posttest. The control group similarly did not retain their test scores consistently: their pretest scores were better than their immediate and delayed posttest scores.

The hypothesis to the Research Question 5(a) related to PI groups' outperformance over PBI groups on the interpretation tasks was partially affirmative: not all PI groups performed better than PBI groups. That is, only PI+EI did better than PBI+EI, which again showed the importance of EI for the benefit of PI groups. For instance, on the aural interpretation task, while PI+EI group was able to maintain their scores, PI-EI group reduced although it was still better than their pretest scores. In addition, on the same task PBI groups also differed: while PBI+EI significantly improved until the delayed posttest over time, PBI-EI was able to sustain

their scores. On the written interpretation task, all four of the instructional groups retained their scores well over time, except for PBI+EI learners who further improved their scores until the delayed posttest.

- On the written production task, all instructional groups retained their improved performance over a three-week period, except for PI+EI learners who showed greater performance in the delayed posttest than their immediate posttest scores. The control group's delayed posttest scores were equal to their pretest scores but higher than their immediate posttest scores.
- On the oral production task, all four instructional groups equally sustained their improvement until the delayed posttest. The control group showed equal performance between their pretest and delayed posttest scores but increased their performance until the delayed posttest.

The hypothesis to the Research Question 5(b) related to both PI and PBI groups' equal performance was confirmed. All instructional groups well retained their immediate posttest scores on both type of production tasks over time, showing that the effect of not only PI but also PBI groups was long-term. Of the instructional groups, PI+EI group further improved their performance compared to the others.

Conclusion and Implications

The findings of this study lent support to the previous research (e.g., Collentine, 1998; Farley, 2004a; Qin, 2008). This study suggests three main conclusions as:

Firstly, both instructional types whether PI or PBI helped learners to perceive and process the data in the input, transfer it into their developing system and finally produce it in communicative meaningful activities. This outcome was compared with a control class and founded statistically.

Secondly, as for the more significant improved performance within PI and PBI groups, the analyses showed that PI groups or PBI groups regardless of whether they received EI did not show significant contrasts, which thereby proved that their improved performance was due to the specifically prepared structured input or structured output activities, not due to the role of EI within PI or PBI groups.

Thirdly, however, as for the contrast between PI and PBI groups, the analyses this time revealed that EI do bring about a significant main effect for the benefit of PI groups on interpretation tasks. This result is based on the cross comparison of the groups, showing that when EI was not involved into PI packet, learners exposed to structured input activities only were not able to outperform those receiving structured output activities alone on the interpretation tasks (PI-EI=PBI-EI). However, when EI was put into PI packet as an additional instructional sequence, this time PI learners were able to perform better than those PBI learners (PI+EI>PBI+EI) on the aural interpretation task in the immediate posttest and on the written interpretation task both in the immediate and delayed posttest. However, this was not observed when EI was lack in PI packet, which revealed the important role of EI for PI. On the production tasks, both PI groups and PBI groups produced the target –ed form equally well. However, given that PI groups were never asked to produce the structure throughout the instructional stage and that they still performed as well as those receiving PBI, one can argue that PI is still as effective as PBI while helping learners notice the form and produce it in meaningful activities.

When considered all these results in mind, some interesting implications can arise for L2 teachers in general and Turkish EFL teachers teaching in this context (i.e., Turkey) in particular. The implications can be categorized in three ways: theoretical, methodological and pedagogical implications.

Theoretically, this study showed that EI plays a very important for the greater effectiveness of PI groups over PBI groups on the interpretation tasks, which leads to developed version of VanPatten's Input processing model. His model needs one more component: EI (as in the figure 7 below) Without EI, PI groups could not outperform PBI groups on the interpretation tasks. But when PI groups received EI handout before the structured input activities, they this time performed better than PBI groups on the same tasks, which shows how much beneficial EI is for VanPatten's PI. However, the role of EI was not found important for the better improvement of production scores of either instructional group irrespective of EI.

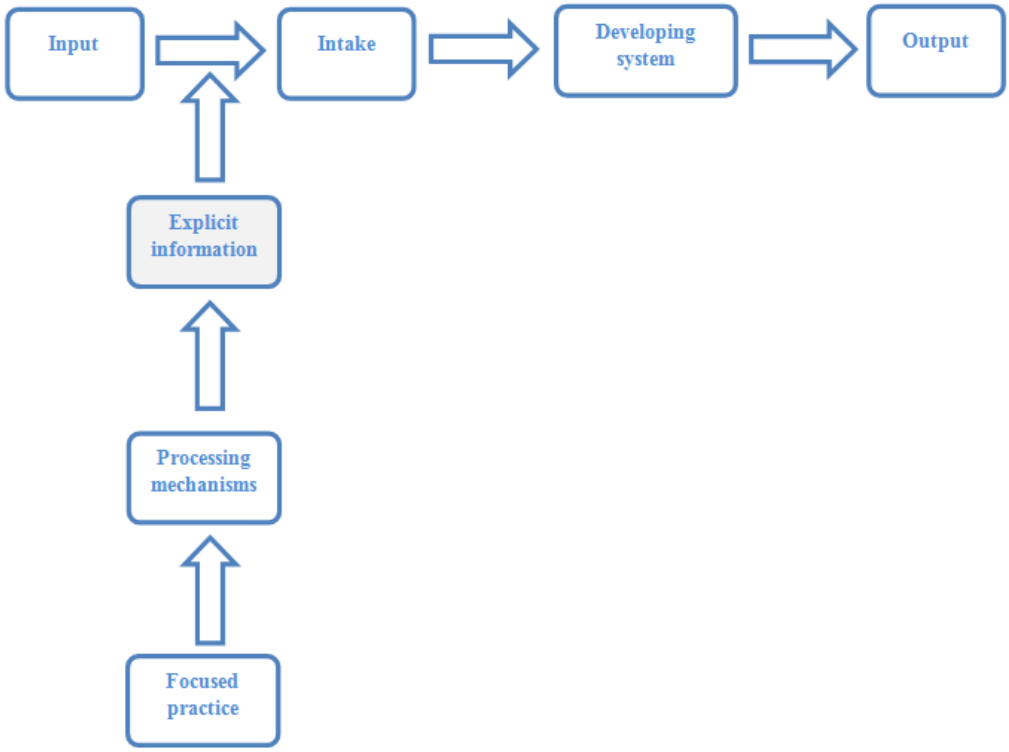


Figure 7. Processing instruction in foreign language teaching (developed version of VanPatten's Input Processing model

Methodologically, this study showed greater importance of using a computer program to collect more real data. It compared instructional groups in students' regular classrooms in their regular class hours, which provided input for the others in the output class while giving

production-based instruction. That is, in PBI classes, the output of one student happened to be the input of another student in class. This bears a disadvantage for the comparison of Input and Output groups; instead, a computer program could be employed to collect more real data in the future.

Pedagogically, this study offers many ideas for language teachers. The first suggestion for language teachers may be that in order to teach English simple past tense regular verb form –ed, they could incorporate either type of instruction (PI or PBI) into their language classes as both equally help learners alter their default processing problems and instead gain more optimal processing strategies.

Secondly, teachers could prepare materials whether considering PI or PBI with and without EI. However, as for the greater effect of the instructional types, teachers should bear in mind that EI has a facilitative effect for PI to outperform PBI at interpretation (comprehension) level. For this reason, as the role of EI in PI is still discussed in the literature, teachers should not rely on structured input activities alone while preparing and using PI materials.

Furthermore, EI could be important to make learners aware of –ed consciously, but teachers should still add EI into PI or PBI materials as an additional instructional sequence.

This study revealed that to encourage L2 learners to produce the targeted structure –ed, PBI is not the single option or way. Teachers could well use PI materials in order to help their learners produce although PI materials are lack of production-based activities.

As for teachers' concern about the effectiveness of both instructional types over time, it can be suggested that teachers could rely on both types of instruction as learners in the study sustained their improved performance in the immediate posttest until the delayed posttest over a three-week period not only on interpretation but also on production tasks. It was only PI-EI that reduced its performance only on aural interpretation but it was still higher than it was in

the pretest. As a result, teachers can consider PI as well as PBI in their language classes because both instructional types have long-term effect.

It can further be suggested that rather than use only one of the instructional types (either PI or PBI), teachers could use both in their classes.

Last but not least, the coverage of textbooks of PI and/or PBI is at best patchy or inadequate. Thus material or textbook writers should consider the effectiveness of PI and PBI and incorporate them into textbooks.

Limitations of the Study

This study was carried out in an EFL context with Turkish adult participants who were at the preparatory school of a private University in Istanbul, Turkey. The targeted grammatical structure was English simple past tense verb morphology (-ed) and thus the investigated processing problem was "primacy of meaning principle", one of the input processing principles that VanPatten (1993, 1996, 2002a, 2004a) suggested. For this reason, its findings may not be generalizable to other L2 learners and other L2 grammatical structures or verb morphemes in particular. Especially, as the data for this study came from university level students, its results may not be generalizable to other young EFL learners.As a result, the findings of this study should be considered in relation to its limitations in the research design and data collection instruments.

For instance, the instruction could have been given by a computer program especially to prevent PBI learners from receiving input from each other, as the output of one student was the input for the other. Further related limitation is that the data could have been collected by using "E-prime" as in the other studies (e.g., Fernandez, 2008; Culman et al., 2009; Henry et al., 2009; VanPatten et al., 2013) so that *trials to criterion* (the number of total target items that participants completed until they reached criterion), *response time* and *accuracy levels* of the participants could have been measured and thus more real data could have been collected.

As with some studies in the literature (e.g., Benati, 2005), in order to make cross-linguistic comparison, the study could have further involved the other language(s) to investigate the effectiveness of PI and/or PBI types on the acquisition of English simple past tense verb form –ed; or in order to gain more generalizable results on linguistic features, the study could have targeted another different structure as well as –ed. Further limitation may be that the study could have measured VanPatten's "first noun principle" as well as "primacy of meaning principle".

The length of instruction may be the last limitation of the study. Although prep school director gave me full consent to do research and teachers helped me generously while doing the research, especially because of the number of instructional classes I myself could not give instructions more than four hours for each class, which may seem not enough to observe and investigate long-term effects of instructional groups. Therefore, other studies could include more time to study and practice structures to collect data in the long run.

Directions for Future Research

This research is among the first to make cross comparisons of PI and PBI groups. In this study, four instructional groups and one control group were compared. First, PI groups and then PBI groups were compared within each other (PI+EI-EI; PBI+EI-EI). After that, PI groups were compared to PBI groups (PI+EI vs. PBI+EI; PI-EI vs. PBI-EI). Random selection of the participants and their random assignment into groups within a quasi-experimental design, lack of teacher variability, equal number of instructional hours and instructional activities – all these make the research design of this study strong enough to make reliable and to some extent generalizable results as to whether and which instructional activities encourage learners to establish correct form-meaning connections. In the future, in order to find more generalizable results on the greater effectiveness of either PI or PBI or to confirm the findings

of the present dissertation, more replication studies could be conducted by using the same research design of this study.

Secondly, further research can address linguistic features of morphologically different languages. In other words, in order to investigate L1 transfer or its role in L2 interlanguage development, researchers can choose different morphemes that are available in one language but not in the other and vice versa. For example, Chinese language does not have English simple past tense –ed, whereas Turkish has. Such cross-linguistic comparisons can yield more realistic data not only for the role of L1 on the second language development but also for the effectiveness of either PI or PBI groups.

Thirdly, researchers should pay attention to the number of instructional hours as it is important for the long-term effects of the instructions.

Fourthly, in the literature there are few studies investigating the role of PI and PBI on young EFL learners (except for Erlam, 2003; Benati, 2005; Qin, 2008). That is, research on young learners is ignored. Therefore, cross-sectional studies could be further conducted in order to reveal whether PI or PBI produces more fruitful effects for young learners of English.

Finally, future research should replicate the design of this study but not in a pen and paper classroom context; maybe in a language laboratory where instructional activities can be given through computer programs especially to reduce the effect of interactions occurring among learners receiving production-based instruction.

Last but not least, as for the data collection instruments, future research could measure learners' performance in all four language skills, especially in speaking for production tasks. As it provides millisecond precision timing to ensure the accuracy of the collected data, future research could use "E-prime" for computerized experiment design, data collection, and analysis.

Appendix A: Explicit Grammatical Information Handout

- We use Simple past tense to talk about <u>finished actions and situations in the past</u>.
  1. We add –ed to the end of the verb to make the past simple of most verbs.

     E.g. Yesterday night he stayed in a hotel.

  2. We sometimes add only –d to the verb which ends with a *consonant* and *-e*

     E.g. He prepa**re**d breakfast two hours ago.

  3. We sometimes add –ied to the verb which ends with *consonant* and *-y*.
     E.g. She studied English last year. (stu**dy**-studied)

- When you use Simple past tense to refer to finished actions in the past, you can also find some phrases or temporal adverbs as in the examples above:
  yesterday two hours ago last year

<u>HOWEVER:</u>

ALWAYS PAY ATTENTION TO THE END OF THE VERB TO UNDERSTAND ITS PASTNESS BECAUSE YOU CAN SOMETIMES HEAR OR READ A SENTENCE WITHOUT TEMPORAL ADVERBS (e.g. yesterday).

WHEN YOU EITHER READ OR LISTEN, YOU MUST RELY ON THE TENSE ENDING TO UNDERSTAND WHETHER THE EVENT HAPPENED IN THE PAST.

Appendix B: Processing Instruction (Structured Input) Activities in Packet A

DAY 1

Activity 1: Fatih Terim in Fiorentina or Turkey.

The statements below come from a magazine about Fatih Terim. Read each statement and indicate whether they are referring to his past life as a coach in Fiorentina or his present life in Turkey. Circle the correct option.

1. He motivates his team very well.
   a) Fiorentina b) Turkey
2. He signed a one year contract.
   a) Fiorentina b) Turkey
3. He saves his team from stress.
   a) Fiorentina b) Turkey
4. He accepted offensive football style.
   a) Fiorentina b) Turkey
5. He defeated Milan heavily with a 4-2 score.
   a) Fiorentina b) Turkey
6. He manages players' feelings.
   a) Fiorentina b) Turkey
7. He talks with the players seriously.
   a) Fiorentina b) Turkey
8. He argued with the club president.
   a) Fiorentina b) Turkey
9. He resigned from the team formally.
   a) Fiorentina b) Turkey
10. He prepares his team for the match very hard.
    a) Fiorentina b) Turkey

Activity 2: New Year Celebration

The statements below come from an interview with Juan, a Chinese student. He listed his New Year celebration activities. Read each statement and decide whether you did similar or different things at the last New Year celebrations. Circle the correct option for you.

Juan …	This happened to me	
	True	False
1. attended a Chinese temple	_____	_____
2. prayed for good luck.	_____	_____
3. washed all the dishes.	_____	_____
4. cleaned the house.	_____	_____
5. decorated the house	_____	_____
6. used red color everywhere.	_____	_____
7. prepared a traditional dinner in the evening.	_____	_____
8. called his friends.	_____	_____
9. interacted with other people positively.	_____	_____
10. visited relatives	_____	_____

Now you can compare your results with your partner to find out how many similar things you did.

Activity 3: David Beckham: Now and Then

Listen to the following statements made by a journalist about the life of footballer "David Beckham" and decide whether each statement is referring to his past life as a Los Angeles Galaxy player or his present life as retired. Put a cross for the correct option.

	RETIRED (NOW)	**LOS ANGELES GALAXY (PAST)**
1	_____	_____
2	_____	_____
3	_____	_____
4	_____	_____
5	_____	_____
6	_____	_____
7	_____	_____
8	_____	_____
9	_____	_____
10	_____	_____

Sentences heard:
David Beckham. . .

1. earned a lot of money
2. works in a football academy for young people
3. visits friends as often as he can
4. played in a number of matches
5. signed a five-year contract
6. organizes parties in his house
7. started living in Beverly Hills
8. plays football with his son
9. worked 6 days a week
10. climbs the mountain in his free time

Activity 4: Last week?

Read the phrases below and indicate whether they happened in your school last weekend. Put a cross for *True* or *False* option for you.

1. We enjoyed a summer picnic.
   a) True b) False
2. We visited the library.
   a) True b) False
3. We exercised together.
   a) True b) False
4. We worked in the garden.
   a) True b) False
5. We painted the walls.
   a) True b) False
6. We organized a day trip.
   a) True b) False
7. We watched DVD film.
   a) True b) False
8. We talked to the school manager.
   a) True b) False
9. We celebrated a festival.
   a) True b) False
10. We played football.
    a) True b) False

Activity 5: Ahmet's diary

Listen to a diary written by one of your friends at the University. And indicate whether Ahmet is referring to an event that happened in his last summer holiday or an event he usually does in summer holidays.

1. a. last summer	b. usually does
2. a. last summer	b. usually does
3. a. last summer	b. usually does
4. a. last summer	b. usually does
5. a. last summer	b. usually does
6. a. last summer	b. usually does
7. a. last summer	b. usually does
8. a. last summer	b. usually does
9. a. last summer	b. usually does
10. a. last summer	b. usually does

Sentences heard:

1. I listen to pop music.
2. I organized a big holiday party.
3. I pick wildflowers in the forest.
4. I visited a lot of historical places.
5. I worked in the garden with my father.
6. I prepare very delicious foods.
7. I watched the sun set from the beach.
8. I collect seashells at the beach.
9. I rented a bike to travel.
10. I walk barefoot in the grass

DAY 2

Activity 6: Arda Turan's Past or Present life.

The statements below come from an interview with Arda Turan. Read each statement and indicate whether they are referring to his past life or present life. Circle the correct option.

1. He started football in Bayrampaşa Altıntepsispor.
   a) Present b) past
2. He stays alone in an apartment in Florya.
   b) Present b) past
3. Trainers enjoyed his performance.
   b) Present b) past
4. He tries to score a lot of goals.
   a) Present b) past
5. Fatih Terim transferred him from Bayrampaşa.
   a) Present b) past
6. He plays for Atletico Madrid.
   a) Present b) past
7. He loves to stay at his villa in summers.
   a) Present b) past
8. G. Hagi helped him in G.saray.
   a) Present b) past
9. He assisted his friend in UEFA super cup.
   a) Present b) past
10. He wants to play in Liverpool.
    a) Present b) past

Activity 7: Merve's fantastic holiday

Merve talked about her last summer holiday in the class. Please indicate whether similar things happened to you. Put a cross for True or False.

My brother and I …	This happened to me
1. visited İzmir	True / False
2. liked the foods and drinks.	True / False
3. enjoyed the weather.	True / False
4. stayed in a hotel near the sea.	True / False
5. walked outside in the mornings.	True / False
6. climbed to a mountain.	True / False
7. played guitar with a group.	True / False
8. photographed the sea	True / False
9. travelled around the city.	True / False
10. watched ships on the sea.	True / False

Activity 8: Robin's story

The story below comes from a newspaper about Robin Andrews. He was lost last night. And nobody knows what happened to him. Listen to the interview between Robin and a reporter to learn the real story and indicate whether each verb below refers to its past or present form.

	PAST	PRESENT
1. happen	_____	_____
2. know	_____	_____
3. walk	_____	_____
4. need	_____	_____
5. get	_____	_____
6. call	_____	_____
7. want	_____	_____
8. remember	_____	_____
9. help	_____	_____
10. realize	_____	_____
11. kill	_____	_____
12. ask	_____	_____
13. stay	_____	_____
14. wait	_____	_____
15. collect	_____	_____
16. feel	_____	_____

Script for Robin's story in Activity 8

Interviewer: What exactly happened, Mr. Andrews? Did you get lost?

Robin: I don't know. At about half past three, I walked to the village because I needed to get some money.

Interviewer: How far is the village from your home?

Robin: Not far…two kilometers. It's an easy walk.

Interviewer: Did you get the Money?

Robin: Yes. I … at the cash point in the bank, but I haven't got the Money now. Then I called at the phone shop next to the bank…

Interviewer: What happened then?

Robin: Well, I wanted to go to the internet cafe but I don't remember…

Interviewer: What do you remember after that?

Robin: Well, I was in front of a library. I was on the ground. An old man helped me to get up. I was very tired…and I realized I was in Marbury.

Interviewer: Marbury is eight kilometers from Shelton. How did you go there?

Robin: I don't know, I really don't know. Maybe someone wanted to kill me.

Interviewer: Do you know Marbury?

Robin: Not really. I was tired and lost. It was cold and dark. It was early morning, I think.

Interviewer: Did you have any Money with you?

Robin: No, not then.

Interviewer: What happened then?

Robin: I asked the old man for directions to the police station. I walked there, but it was closed. I walked to the river and stayed under the bridge for an hour or two.

Interviewer: Later what happened?

Robin: I waited for the morning, then I walked back to the police station. They called my father and he collected me in the car.

Interviewer: How do you feel now, Mr. Andrews?

Robin: I don't know... strange

Activity 9: Your best friend's last weekend

Your best friend listed the following statements below about his/her last weekend. Indicate whether you did the *same* or *different* thing.

1. I attended summer festival.
   a) same b) different
2. I washed the dishes.
   a) same b) different
3. I cleaned the house.
   a) same b) different
4. I borrowed a book from the library.
   a) same b) different
5. I baked an apple pie.
   a) same b) different
6. I watched favorite scary movie.
   a) same b) different
7. I started doing sport.
   a) same b) different
8. I studied English.
   a) same b) different
9. I played computer games.
   a) same b) different
10. I climbed to a tree.
    a) same b) different

Activity 10: Acun Ilıcalı: Now and Then

The following statements were taken from Acun Ilıcalı's facebook page about his life. Listen to each statement and decide whether he is referring to his past life or his present life. Circle the correct option for you.

	PAST	NOW
1	_____	_____
2	_____	_____
3	_____	_____
4	_____	_____
5	_____	_____
6	_____	_____
7	_____	_____
8	_____	_____
9	_____	_____
10	_____	_____

Sentences heard:
Acun Ilıcalı. . .

1. studied in Edirne
2. helps poor children
3. married very young
4. plays a lot of computer games
5. listens to Rap music
6. travelled 105 countries
7. produced lots of TV programs
8. presents his own programs
9. organized talk shows at universities
10. stays in a very big house.

Appendix C : Production-based Instruction (Structured Output) Activities in Packet B

DAY 1

Activity 1: Mary's last weekend (oral/written mechanical based)

The pictures below indicate what Mary did last weekend. Look at the pictures and talk about her last weekend by using the prompts.

Activity 2 : Mary's last year (oral/written mechanical based)

The e-mail below comes from Mary. It is about her brother's visit to Bangkok last year. Fill in the blanks with the verbs in brackets to complete the mail.

Dear friends,

I am very happy because I _____ (visit) Bangkok with my brother. We _____ (like) the food. It was very hot place, but we _____ (enjoy) the weather. We _____ (stay) in a hotel near the river. There were lots of tourists there and we _____ (talk) to some girls from Australia. The city is very big so in the mornings we _____ (walk) outside for hours. Also, we - _____ (travel) on the new railway. It was very fast and comfortable. Later, we _____ (miss) the train but _____ (pray) for a good luck. But we _____ (wait) for a long time. On the last day, we _____ (collect) seashells and _____ (pick up) wildflowers in the forest. We _____ (want) some gifts so we _____ (visit) the beautiful street markets. We_____ (photograph) the sun set. Finally we _____ (climb) to a mountain. It was fantastic holiday for us.

Looking forward to hearing from you soon.
Yours sincerely
Mary

Activity 3: Fatih Terim (oral meaning based)

The pictures below come from a sport magazine about Fatih Terim and what he did in the past. Look and describe the pictures by using all the verbs and adverbs given below.




<u>Verbs</u>

motivate	sign a contract	resign	manage	talk
argue	defeat Milan	prepare the team		

<u>Adverbs</u>

strongly	easily	angrily	energetically	heavily	perfectly
badly	carefully				

Activity 4: E-mail to Mary

Now write a reply mail to Mary about your last visit to a city or country. In your mail, write what you did there. Use the verbs below as a prompt.

visit museums	like foods and drinks	enjoy at parties	stay in a hotel
walk outside	travel around the city	organize a day trip	watch the sunset

……
……
……
……

Activity 5: Your last holiday

Now tell about your holiday last year. You can use the following verbs and nouns to talk about it.

visit museums	like the sea	enjoy the food	stay at a hotel
paint picture	listen to music	want to play pool games	
watch the sun set	walk	talk	

DAY 2

Activity 6: Robin's story (oral/written meaning based)

The pictures below come from a local newspaper in London about Robin's story in the past. Look at the verbs given and tell his story.

Robin/stop woman/call for help


Robin/try to help woman/escape
man/push/Robin into car


that night/men/push Robin/out of car
old man/watch them

Activity 7: Inventors (oral/written meaning based)

The statements below were taken from a historical magazine about two inventors in the past: Alfred Nobel, and Levi Strauss. Look at the verbs given and write a short text by using them. Finally find the name of the inventor.

Inventor: _____?
He was born in Sweden
……
……
……

work as a chemist	love poetry, novels, plays	kill brother in an experiment (1864)
study hard	try to make safe bombs	invent dynamite (1866)

start Nobel Prize Foundation (1895)

Inventor: _____**?**
He was born in Germany
……
……
……

travel New York (1846)
start shopping for gold miners
invent jeans (1873)
call material ‘denim’

settle in San Francisco (1853)
produce clothes
use material from Nimes, France

Now write what happened in the years below.

- 1864 _____ 1846 _____
- 1853 _____ 1873 _____
- 1866 _____ 1895 _____

Activity 8: Robin’s story (oral/written meaning based)

The pictures below come from a local newspaper in London about Robin’s another story in the past. Look at the verbs given and tell his story.

Activity 9: Any accident?

Now write about any accident which happened to you in the past.
……
……
……

Activity 10: Last week?

Tell what you did in your school last month. You can use the following verbs and nouns.

enjoy a summer picnic
work in the garden
watch DVD film
play football

visit the library
paint the walls
talk to the manager
play computer games

exercise together
organize a day trip
celebrate a festival

Appendix D : Assessment Materials (Version A)

Aural Interpretation Task

The statements below come from a newspaper about hurricanes generally happening now and Hurricanes named Irene and Helen that occurred in 1999 in Florida. Listen to the statements and decide whether each is referring to hurricanes general or Hurricanes Irene and Helen in the past in Florida.

	Hurricanes (NOW)	Hurricanes (Irene and Helen) (IN THE PAST)
1	_____	_____
2	_____	_____
3	_____	_____
4	_____	_____
5	_____	_____
6	_____	_____
7	_____	_____
8	_____	_____
9	_____	_____
10	_____	_____
11	_____	_____
12	_____	_____
13	_____	_____
14	_____	_____
15	_____	_____

Aural Interpretation Task Script
Sentences heard:
Hurricanes**…**

1. play an important role in climate
2. moved north across the Caribbean Sea
3. happen over large bodies of water
4. damaged coastal regions
5. closed many roads
6. produce heavy rain
7. reached wind speed (115 km/h)
8. entered the Atlantic Ocean
9. created problems
10. generate high waves

11. killed 18 people
12. caused $800 million damage
13. affected businesses
14. changed climates
15. carry energy away

Written Interpretation Task

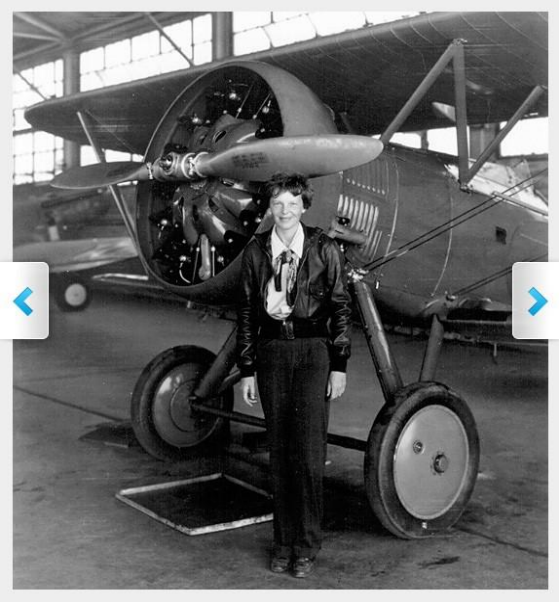
The statements below are about Tarkan's biography (his life in the past and now). Read the following phrases and indicate whether the statements are referring to what he did in the past or what he usually does in his present life.

1. He travelled around the world
   b. past life b. usually does
2. He enjoyed society's love to him
   b. past life b. usually does
3. He conquers people's heart
   b. past life b. usually does
4. He received a lot of awards
   a. past life b. usually does
5. He recorded football team's song
   a. past life b. usually does
6. He plans to organize more concerts
   a. past life b. usually does
7. He lived in Germany sometime
   a. past life b. usually does
8. He started music studies at Karamürsel
   a. past life b. usually does
9. He performed in bars and clubs
   a. past life b. usually does
10. He continues to gain popularity
    a. past life b. usually does
11. He studied English to sing
    a. past life b. usually does
12. He liked his fans in New York
    a. past life b. usually does
13. He helps poor people.
    a. past life b. usually does
14. He appeared on TVs or radios
    a. past life b. usually does
15. He tours in Germany, France, etc.
    a. past life b. usually does

Written Production Task

The statements below come from an aviation magazine about Amelia Earhart. You will hear the first part of a sentence about her. Change the verb in brackets to complete the sentence.

1. _____ (pass) across the Atlantic Ocean alone.
2. _____(start) in Newfoundland, Canada.
3. _____(arrive) in Londonderry, Ireland.
4. _____(want) to meet this incredible woman.
5. _____(chat) with King George V of England.
6. _____ (talk) with him freely.
7. _____ (try) to fly around the world.
8. _____ (crash) her plane in the ocean.
9. _____ (receive) a radio message from Amelia.
10. _____ (disappear) in the ocean forever.



Amelia Earhart

Written Production Task Script

Researcher's script:

1. Amelia Earhart was America's favorite woman. She…
2. She was the first woman to do this. Her journey…
3. Fifteen hours later, her airplane…
4. After this event, she was very popular and everybody…
5. In one case, she…
6. Also, she became friend with the US President, Roosevelt. So, she…
7. She was very ambitious and so she…
8. But she was not lucky this time because she…
9. The American ship, Itasca …
10. But nobody was able to find her and she…

Oral Production Task

Tom went parachuting. Look at the pictures below to learn about Tom's last weekend. Tell about what he did with the verbs.

Actions before and after parachuting

1. want to relax
2. learn parachuting
3. wait for a few minutes
4. pray for good luck
5. jump down
6. open parachute
7. enjoy the weather
8. watch the view
9. injure his leg
10. land badly

Appendix E : Assessment Materials (Version B)

Aural Interpretation Task

The comparative statements below come from a holiday magazine about John's perfect holiday (in a campsite) at present but Henry's terrible holiday (in a campsite) in the past. Listen to the phrases and decide whether each statement is referring to John's or Henry's holiday.

	John's holiday (NOW)	Henry's holiday (IN THE PAST)
1	_____	_____
2	_____	_____
3	_____	_____
4	_____	_____
5	_____	_____
6	_____	_____
7	_____	_____
8	_____	_____
9	_____	_____
10	_____	_____
11	_____	_____
12	_____	_____
13	_____	_____
14	_____	_____
15	_____	_____

Aural Interpretation Task Script

Sentences heard:

1. He lives alone in a tent
2. He stayed in a tent
3. He enjoys the weather
4. He walked a lot on the hills
5. He climbed high mountains
6. He shared his tent with someone
7. He listened to his friend's snoring
8. He waited in long queues
9. He watches the sun set

10. He carried backpack long distances
11. He returned home late
12. He plays games with friends
13. He injured his knee
14. He attends open air events
15. He encountered other campers

Written Interpretation Task

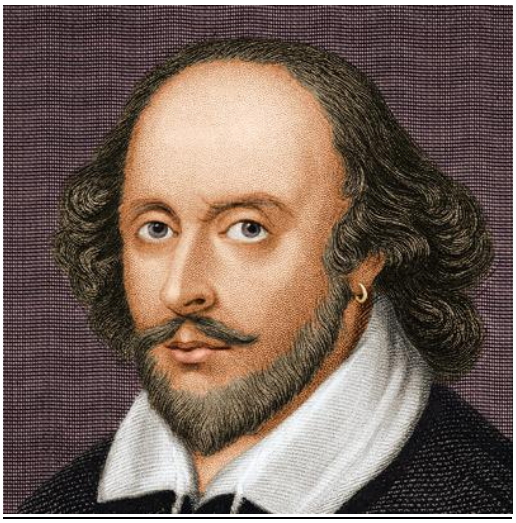
The statements below come from the diary of one of your friends. Read the following phrases and indicate whether he is referring to an event that happened in his last summer holiday or an event he usually does in summer holidays.

1. I preferred a luxurious hotel.
   a. last summer b. usually does
2. I planted an orange tree.
   a. last summer b. usually does
3. I play guitar with my friends.
   a. last summer b. usually does
4. I step out into the fresh air.
   a. last summer b. usually does
5. I wasted most of my time in the sea.
   a. last summer b. usually does
6. I help old people.
   a. last summer b. usually does
7. I invited my friends for parties.
   a. last summer b. usually does
8. I cancelled my meetings.
   a. last summer b. usually does
9. I collect seashells at the beach.
   a. last summer b. usually does
10. I walked the dog.
    a. last summer b. usually does
11. I enjoyed the foods and drinks.
    a. last summer b. usually does
12. I watch the sun set.
    a. last summer b. usually does
13. I liked swimming.
    a. last summer b. usually does
14. I watched lots of films.
    a. last summer b. usually does
15. I travelled by car.
    a. last summer b. usually does

Written Production Task

The story below comes from a literature magazine about Shakespeare. You will hear the first part of a sentence about him. Change the verb in brackets to complete the sentence.

1. _____ (marry) Anne Hathaway in Stratford.
2. _____(live) in Stratford with his parents.
3. _____(move) to London
4. _____(work) as an actor
5. _____(start) to write plays (*Romeo and Juliet).*
6. _____ (like) his plays and shows.
7. _____ (perform) his plays for the King.
8. _____ (introduce) his last play, *Henry VIII.*
9. _____ (burn) the theatre down.
10. _____ (die) there at the age of forty-six.



Shakespeare

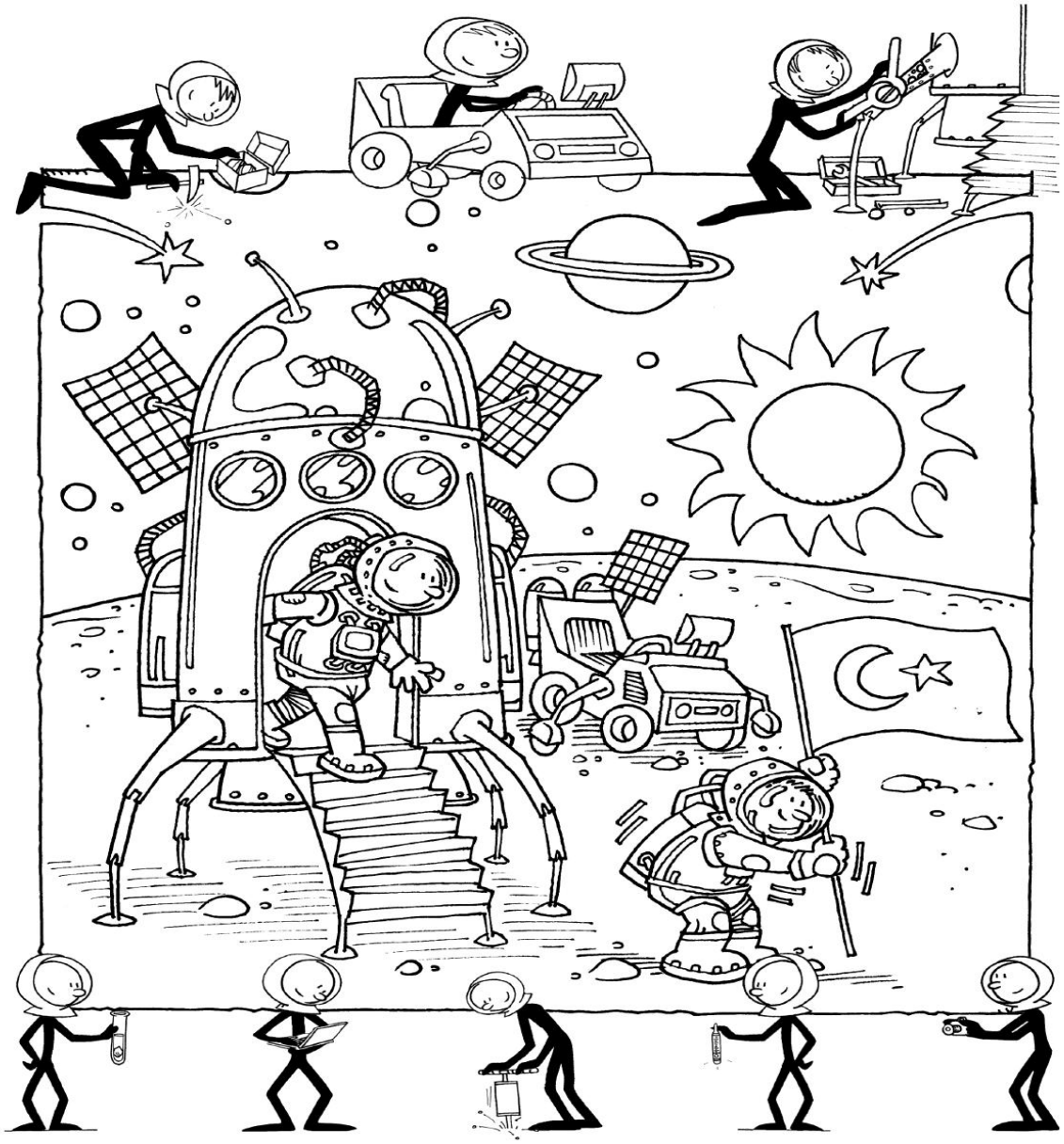
Written Production Task Script

Researcher's script:

1. William Shakespeare was born in England. When he was eighteen, William…
2. But after marriage, he never…
3. He wanted to be an actor and the best theatres were in London. So, he…
4. In a theatre called "The Rose", Shakespeare…
5. When he was there, he also…
6. He was famous, because everyone…
7. When James I became King, Shakespeare…
8. He was at the Globe Theatre and there he …
9. There was a gun in this play, and fire from the gun…
10. Later, Shakespeare was back in Stratford and he…

Oral Production Task

Turkish astronauts were in the space last year. Look at the pictures and talk about what they did there. Use the verbs below.



1. test the soil
2. use the computer
3. look for water
4. measure the temperature
5. photograph the space
6. collect rocks
7. push the buggy
8. repair the space module
9. walk on the space
10. work on the space

Appendix F: Assessment Materials (Version C)

Aural Interpretation Task

The comparative statements below come from a British magazine about Mr. Bean's present life and Charlie Chaplin's past life. Listen to their story and decide whether the statement is referring to Mr. Bean or Charlie Chaplin.

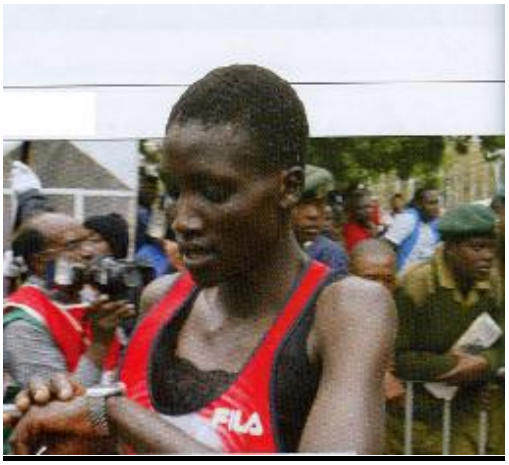
	Mr. Bean (NOW)	Charlie Chaplin (IN THE PAST)
1	_____	_____
2	_____	_____
3	_____	_____
4	_____	_____
5	_____	_____
6	_____	_____
7	_____	_____
8	_____	_____
9	_____	_____
10	_____	_____
11	_____	_____
12	_____	_____
13	_____	_____
14	_____	_____
15	_____	_____

Aural Interpretation Task Script
Sentences heard:

1. He appeared in music halls.
2. He studies his master's degree at Oxford University.
3. He acted on the London stage.
4. He stayed in the USA with Fred Karno's company
5. He lives alone in his small flat.
6. He started to work in Hollywood
7. He produced his films in Hollywood.
8. He works with Tiger Television
9. He introduced the little tramp.
10. He married several times.
11. He uses his Teddy Bear in his shows.
12. He directed most of his films.
13. He plays on TV shows.
14. He loved his perfectionism.
15. He received an Honorary Academy Award.

Written Interpretation Task

The statements below come from an interview between Chimokel and a reporter in Kenya. Chimokel is a housewife but won the Nairobi Marathon last year. Read the following phrases and indicate whether she is referring to her training process last year or to what she or her family usually does.

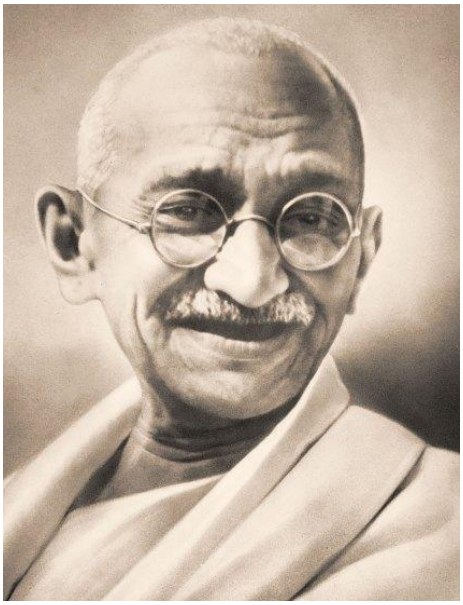


1. We lived in a poor environment.
   a. Past life b. usually does
2. My mother died in an accident.
   a. Past life b. usually does
3. I married Benjamin for love.
   a. Past life b. usually does
4. People earn less than 1 dollar a day.
   a. Past life b. usually does
5. I decided to run for my children.
   a. Past life b. usually does
6. Benjamin looks after the children.
   a. Past life b. usually does
7. I trained on the hills very much.
   a. Past life b. usually does
8. Benjamin prepared breakfast for us.
   a. Past life b. usually does
9. Benjamin smiled me happily.
   a. Past life b. usually does
10. Children need to finish their education.
    a. Past life b. usually does
11. Benjamin helped me very much.
    a. Past life b. usually does
12. I want to run in London marathon.
    a. Past life b. usually does
13. Benjamin cooks for everybody.
    a. Past life b. usually does
14. I entered the race to win.
    a. Past life b. usually does
15. My family watched me in the race.
    a. Past life b. usually does

Written Production Task

The story below is about Mahatma Gandhi in India. You will hear the first part of a sentence about him. Change the verb in brackets to complete the sentence.

1. _____ (develop) a non-violent behavior.
2. _____(marry) at the age of thirteen.
3. _____(study) law.
4. _____(return) to his country.
5. _____(organize) very big demonstrations.
6. _____ (protest) the government.
7. _____ (design) projects to help the poor.
8. _____ (believe) the society firmly.
9. _____ (play) a very important role.
10. _____ (kill) him in a meeting.



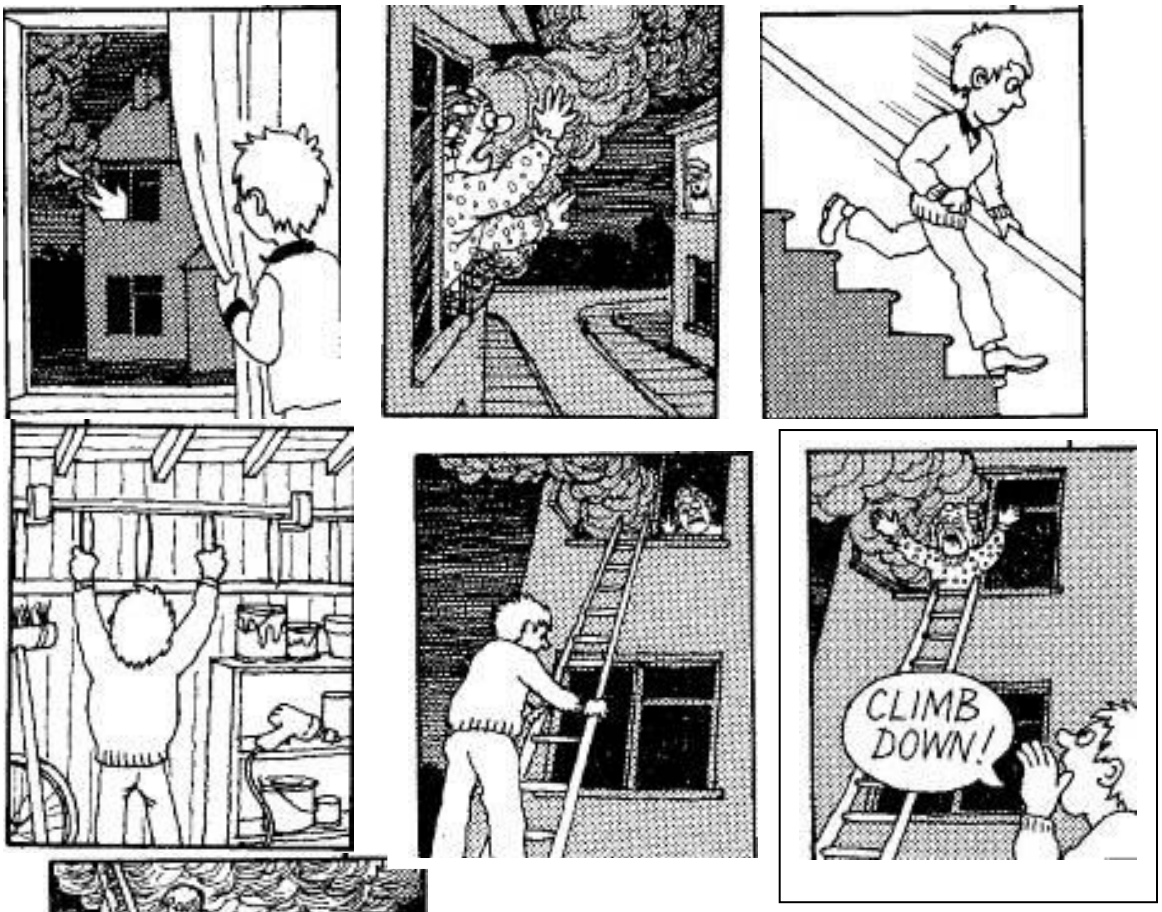
Mahatma Gandhi

Written Production Task Script
Researcher's script:

1. Mahatma Gandhi was an important leader of India. He…
2. Life was difficult when he was young. He…
3. At the university, he…
4. He went to London and became a lawyer. Then he…
5. A few years later, he went back to South Africa and there he…
6. To protect civil rights of Muslim and Hindu Indians, he…
7. Twenty years later, he was back in India. There, he…
8. When he was in India, he…
9. In the independence of India, he…
10. He was very popular in India, but a fanatic…

Oral Production Task

Ali was at home alone yesterday night. He heard a strange noise. Look at the pictures below and tell about his story about the fire by using the verbs below.



Verbs

1. open the window
2. cry for help
3. pick the staircase
4. walk down quickly
5. use the staircase
6. shout at the woman
7. climb down
8. call the ambulance
9. arrive
10. inform the police

Appendix G: Informed Consent Form

Researcher: Adem Soruç
Email: adem_soruc@hotmail.com
Address: Department of English Language Teaching
Yeditepe University, Istanbul/TURKEY

You are kindly invited to participate in an experimental research. The researcher will make you do some English practices for two hours in two days in your regular English classroom hours. Then you will take some tasks to do. All of the responses you give will not be shared with anyone, except for the researcher.

Please note that if you do not want to participate, feel free to withdraw from this study at any time without giving a reason.

Do you agree to take part in this study?
If yes, please sign: _____ .
Date: _____ .

Appendix H: Background Questionnaire

All information remains confidential (bu bilgiler tamamen gizli kalacaktir!)

1. Name (İsim/soyisim): _____
2. Age (Yaş): _____
3. Gender (Cinsiyet): Male____ Female_____
4. High school: _____
5. E-mail: _____
6. Phone contact: _____
7. Class:
   C5 _____ C2 _____ C7 _____ C19_____
   C10_____ C14_____ C15_____ C26_____
   C35_____
8. Did you take English in high school? (Lisede İngilizce dersi aldınız mı?)
   YES_____ NO _____
9. If you answered YES, how many years of high school English have you had?
   (Eğer cevabınız EVET ise, kaç yıl İngilizce dersi aldınız?)
   _____
10. Is English your native language? (İngilizce ana diliniz mi?)
    YES_____ NO _____
11. Have you ever studied abroad? (Yurt dışında eğitim gördünüz mü?)
    YES_____ NO _____
12. If YES, WHERE? ; LENGTH OF TIME
    (Cevabınız "Evet" ise, nerede eğitim gördünüz?)
    _____
13. Do you have any hearing o reading impairment?
    (Herhangi bir duyma ya da okuma probleminiz var mı?)
    YES_____ NO _____

Appendix I : Observation Sheet for PI Groups

(for the regular classroom teacher)

Class Name and Grade: _____
Name of the instructor who observed:_____ Date of observation: _____

You are being asked to focus on structured input activities. You do not have to comment in detail on activities that focus on general communication (i.e., that were not centered on a specific form), classroom management, or any other aspects of the classroom that are not within the questions below.

Overview: Describe in general the lesson you observed. You should use this format while watching the class so that you can complete this question. Note that you do not have to report minute-by-minute, just general activities.

Example:

- ✓ Instructor distributes some papers with activities
- ✓ Instructor points to the pictures and reads the captions aloud.
- ✓ Students match the sentences with pictures

  Etc.

Structured input activities: Give a general description of the structured input activities you observed.

- What was the form/structure being targeted? ("-ed" in English simple past tense)
- How many structured input activities were done? Etc.

Comment on whether the structured input activities adhered to the following principles. Rate each principle on a 1 to 5 scale. "1" means that it wasn't followed, and "5" means that it was followed perfectly. The numbers in between indicate that you have some questions about how well it was followed. Explain your rating in all cases.

Principles	Activity 1	Activity 2	Activity 3	Activity 4	Activity 5
Present one thing at a time. Was there just one form being targeted?					
Keep meaning in focus. Did the learners have to comprehend the input in order to respond to it?					
Move from sentences to connected discourse					
Use both oral and written input					
Have the learner do something with the input. In what way(s) did the learners respond to the input without producing the target structure? Was it evident that learners were focusing on the relevant form/structure?					

Appendix J : Observation Sheet for PBI Groups

(for the regular classroom teacher)

Class Name and Grade: _____
Name of the instructor who observed:_____ Date of observation: _____

You are being asked to focus on structured output activities. You do not have to comment in detail on activities that focus on general communication (i.e., that were not centered on a specific form), classroom management, or any other aspects of the classroom that are not within the questions below.
Overview: Describe in general the lesson you observed. You should use this format while watching the class so that you can complete this question. Note that you do not have to report minute-by-minute, just general activities.

Example:

- ✓ Instructor distributes some papers with activities
- ✓ Instructor points to the pictures and reads the captions aloud.
- ✓ Students match the sentences with pictures

  Etc.

Structured output activities: Give a general description of the structured output activities you observed.

- Was there enough input before moving to output?
- How many structured output activities were there?
- How were the learners instructed to produce output? (creating a list, writing a paragraph, etc.) Etc.

Comment on whether the structured output activities adhered to the following principles. Rate each principle on a 1 to 5 scale. "1" means that it wasn't followed, and "5" means that it was followed perfectly. The numbers in between indicate that you have some questions about how well it was followed. Explain your rating in all cases.

Principles	Activity 1	Activity 2	Activity 3	Activity 4	Activity 5
Present one thing at a time					
Keep meaning in focus					
Others must respond to the content of the output					
The learner must have some knowledge of the form or structure					
Move from sentences to connected discourse					
Use both oral and written output					

Appendix K : Lesson Plan: Processing Instruction Groups

Subject:	English	Class:	Class 7-19 (with EI handout) Class 15-26 (without EI handout)
Topic	Simple past tense (regular verb form)	Time:	40-minutes
Context:	University		
Learning Objectives:	Learners will… • first of all receive metalinguistic explanation about the basic rules of English simple past tense with its regular verb form –ed in sample sentences and then get strategy to PAY ATTENTION TO THE END OF THE VERB TO UNDERSTAND ITS PASTNESS. • then be encouraged to make some comprehension (interpretation) practices to process or to internalize the acquisition of the target structure –ed in Simple past tense • finally be able to comprehend the targeted structure correctly through comprehension-based activities		
Resources:	Previously prepared structured input activities		
Warm-up: (5 min.)	The researcher • introduces himself • shows some pictures related to past events (e.g., football matches, historical events, previous famous stars in the country) • asks students when those events happened		
Hand-out: (10 min.)	The researcher explicitly • introduces English simple past tense and its use • gives some basic sample sentences • informs learners about their possible default processing strategies		
Structured Input Activities: (25 min.)	The researcher • introduces one Referential, one Affective activity for each class • distributes paper-based materials • spares 10-15 minutes for each of the activities; 25 minutes in total • do audio and written exercises • gives feedback for the incorrect responses in the Referential activities; but without any metalinguistic explanation as in the handout		
Evaluation and Recap: (5 min.)	The researcher reviews what has been practiced in the class		
Homework:	The researcher does not give homework related to the structure		

Appendix L : Lesson Plan: Production-based Instruction Groups

Subject:	English	Class:	Class 10-35 (with EI handout) Class 5-14 (without EI handout)
Topic	Simple past tense (regular verb form)	Time:	40-minutes
Context:	University		
Learning Objectives:	Learners will … • first of all receive a handout involving metalinguistic explanation about the basic rules of English simple past tense with its regular verb form –ed in sample sentences and then get strategy to PAY ATTENTION TO THE END OF THE VERB TO UNDERSTAND ITS PASTNESS. • then be exposed to some production based practices to process or to internalize the acquisition of the target structure –ed in Simple past tense • finally be able to produce the targeted structure correctly through production/output based tasks		
Resources:	Previously prepared output activities; pictures to help produce the target structure		
Warm-up: (5 min.)	The researcher • introduces himself • shows some pictures related to past events (e.g., football matches, historical events, previous famous stars in the country) • asks students when those events happened		
Hand-out: (10 min.)	Teacher/researcher explicitly • introduces English simple past tense and its use • gives some basic sample sentences		
Structured Output Activities: (25 min.)	The researcher • introduces one Referential, one Affective activity for each class • distributes paper-based materials • spares 10-15 minutes for each of the activities; 25 minutes in total • do oral and written exercises • gives feedback for the incorrect responses in the Referential activities; but without any metalinguistic explanation as in the handout		
Evaluation and Recap: (5 min.)	Teacher/researcher reviews what has been practiced in the class		
Homework:	Teacher/researcher does not give homework related to the structure		

REFERENCES

Adams, R. (2003). L2 output, reformulation, and noticing: implications for IL development. *Language Teaching Research*, 7 (3), 347–376.

Alanen, R. (1995). Input enhancement and rule presentation in second language acquisition. In R.W.Schmidt (Ed.), *Attention and awareness in foreign language learning* (pp. 259–302). Honolulu: University of Hawaii Press.

Allen, L. Q. (2000). Form-meaning connections and the French causative: An experiment in processing instruction. *Studies in Second Language Acquisition, 22*, 69-84.

Barcroft, J. & VanPatten, B. (1997). Acoustic salience of grammatical forms: the effect of location stress, and boundedness on Spanish L2 input processing. In W. R. Glass and A. T. Pérez-Leroux (Eds.), *Contemporary Perspectives on the Acquisition of Spanish: Production, Processing, and Comprehension* (pp. 109–121). Somerville, MA: Cascadilla Press.

Benati, A. (2001). A comparative study of the effects of processing instruction and output-based instruction on acquisition of the Italian future tense. *Language Teaching Research, 5*, 95-127.

Benati, A. (2004a). The effect of structured input activities and explicit information on the acquisition of Italian future tense. In B. VanPatten (Ed.), *Processing Instruction: Theory, Research, and Commentary* (pp. 211–229). Mahwah, NJ: Lawrence Erlbaum Associates.

Benati, A. (2004b). The effects of processing instruction and its components on the acquisition of gender agreement in Italian. *Language Awareness, 13, 2,* 67-80.

Benati, A. (2005). The effects of processing instruction, traditional instruction and meaning-output instruction on the acquisition of the English past simple tense. *Language Teaching Research, 9,* 67-93.

Benati, A. & Lee, J. F. (2010). *Processing Instruction and Discourse*. New York: Continuum International Publishing Group.

Cadierno, T. (1995). Formal instruction from a processing perspective: An investigation into the Spanish past tense. *Modern Language Journal, 19*, 179-193.

Cheng, A. (2002). The effects of processing instruction on the acquisition of ser and ester. *Hispania, 85*, 308-323.

Clarke, M. A. (1979). Reading in Spanish and English: Evidence from adult ESL students. *Language Learning, 29*, 21-50.

Collentine, J. (1998). Processing instruction and the subjunctive. *Hispania, 81*, 576-587.

Corder, S. P. (1967). The significance of learners' errors. *International Review of Applied Linguistics, 5*, 161–170.

Culman, H., Henry, N. & VanPatten, B. (2009). The role of explicit information in instructed SLA: An on-line study with processing instruction and German accusative case inflections. *Die Unterrichtspraxis/Teaching German, 42* (1), 19-31.

DeKeyser, R. M. (2003). Implicit and explicit learning. In C. J. Doughty and M. H. Long. (Eds.), *The handbook of second language acquisition* (pp. 313–348). Oxford: Blackwell.

DeKeyser, R. M. & Sokalski, K. J. (1996). The differential role of comprehension and production practice. *Language Learning, 46* (4), 613-642.

Doughty, C. J. (2004). Commentary: When PI is focus on form it is very, very good, but when it is focus on forms. In B. VanPatten (Ed.), *Processing Instruction: Theory, Research, and Commentary* (pp. 261–273). Mahwah, NJ: Lawrence Erlbaum Associates.

Doughty, C. J. & Williams, J. (1998a). *Focus on form in classroom second language acquisition*. Cambridge, UK: Cambridge University Press.

Doughty, C. J. & Williams, J. (1998b). Pedagogical choices in focus on form. In C. J. Doughty and J. Williams (Eds.), *Focus on form in classroom second language acquisition* (pp. 197–261). New York: Cambridge University Press.

Ellis, R. (1984). *Classroom Second Language Development: A Study of Classroom Interaction and Language Acquisition*. Oxford, UK: Pergamon.

Ellis, R. (1990). *Instructed Second Language Acquisition*. Oxford, UK: Basil Blackwell.

Ellis, R. (2002a). Does form-focused instruction affect the acquisition of implicit knowledge? *Studies in Second Language Acquisition, 24*, 223–236.

Ellis, R. (2002b). The place of grammar instruction in the second/foreign curriculum. In E. Hinkel and S. Fotos (Eds.), *New perspectives on grammar teaching in second language classrooms* (pp. 17–34). Mahwah, NJ: Erlbaum.

Ellis, R. (2006). Current issues in the teaching of grammar: An SLA perspective. *TESOL Quarterly, 40* (1), 83-107.

Ellis, R. (2008). *The Study of Second Language Acquisition.* Oxford: Oxford University Press.

Ellis, R., Basturkmen, H. & Loewen, S. (2002). Doing focus-on-form. *System, 30*, 419–432.

Ellis, R., Tanaka, Y. & Yamazaki, A. (1994). Classroom interaction, comprehension, and the acquisition of L2 word meanings. *Language Learning, 44*, 449–491.

Ellis, N. (1994). *Implicit and Explicit Learning of Languages.* London: London Academic Press.

Ellis, N. (2004). The Processes of second language acquisition. In B. VanPatten, J. Williams, S. Rott and M. Overstreet (Eds.), *Form-Meaning Connections in Second Language Acquisition* (pp. 49-76). Mahwah, NJ: Lawrence Erlbaum Associates

Erlam, R. (2003). Evaluating the relative effectiveness of structured-input and output-based instruction in foreign language learning. *Studies in Second Language Acquisition, 25*, 559–582.

Farley, A. P. (2001). Authentic processing instruction and the Spanish subjunctive. *Hispania, 84*, 289-299.

Farley, A. P. (2004a). The relative effects of processing instruction and meaning-based output instruction. In B. VanPatten (Ed.), *Processing instruction* (pp. 147-172). Mahwah, NJ: Erlbaum.

Farley, A. P. (2004b). Processing instruction and the Spanish subjunctive: Is Explicit Information Needed? In B. VanPatten (Ed.), *Processing instruction* (pp. 231-43). Mahwah, NJ: Erlbaum.

Farley, A. & Aslan, E. (2012). The relative effects of processing instruction and meaning-based output instruction on L2 acquisition of the English subjunctive. *ELT Research Journal, 1(2),* 120-141.

Fernandez, C. (2008). Reexamining the role of explicit information in processing instruction. *Studies in Second Language Acquisition, 30*, 277–305.

Gass, S.M. (1997). *Input, interaction, and the second language learner.* Mahwah, NJ: Lawrence Elrbaum Associates.

Gass, S. M. & Selinker, L. (2008). *Second Language Acquisition: An Introductory Course*. New York: Routledge.

Gass, S. M. & Varonis, E. M. (1994). Input, interaction, and second language production. *Studies in Second Language Acquisition, 16*, 283–302.

Gipps, C. V. (2003). *Beyond Testing: Towards a Theory of Educational Assessment*. London: The Falmer Press.

Hanaoka, O. & S. Izumi. (2012). Noticing and uptake: addressing pre-articulated covert problems in L2 writing. *Journal of Second Language Writing,* 21 (4), 332–347.

Henry, N., Culman, H. & VanPatten, B. (2009). More on the effects of explicit information in processing instruction: A partial replication and response to Fernandez (2008). *Studies in Second Language Acquisition, 31*, 359–375.

Hulstijn, J. H. & de Graaff, R. (1994). Under what conditions does explicit knowledge of a second language facilitate the acquisition of implicit knowledge? A research proposal. *AILA Review, 11*, 97–113.

Izumi, S. (2000). *Promoting noticing and SLA: An empirical study of the effects of output and input enhancement on ESL relativization.* Unpublished doctoral dissertation, Georgetown University, Washington, DC.

Izumi, S. (2002). Output, input enhancement, and the noticing hypothesis: An experimental study on ESL relativization. *Studies in Second Language Acquisition, 24*, 541-577.

Izumi, S. (2003). Comprehension and production processes in second language learning: in search of the psycholinguistic rationale of the output hypothesis. *Applied Linguistics 24 (2),* 168–196.

Keating, G. D. & Farley A. P. (2008). Processing instruction, Meaning-based output instruction, and Meaning-based drills: Impacts on classroom L2 acquisition of Spanish Object Pronouns. *Hispania 91(3),* 639-650.

Kowal, M. & Swain, M. (1994). Using collaborative language production tasks to promote students' language awareness. *Language Awareness, 3,* 73-93.

Kowal, M. & Swain, M. (1997). From semantic to syntactic processing: How can we promote it in the immersion classroom? In R. K. Johnson and M. Swain (Eds.), *Immersion education: International perspectives* (pp. 284-309). Cambridge, UK: Cambridge University Press.

Krashen, S. (1978). Adult Second Language Acquisition and Learning. In Gringas, R. (Ed.), *Second Language Acquisition and Foreign Language Teaching*. Washington: CAL.

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

Krashen, S. (1984). Immersion: Why it works and what it has taught us. *Language and Society, 12,* 61-64.

Krashen, S. (1985). *The input hypothesis: issues and implications*. London: Longman.

Larsen-Freeman, D. & Long, M. (1991). *An Introduction to Second Language Acquisition Research*. London: Longman.

Lee, J. F. (1990). Constructive processes evidenced by early stage non-native readers of Spanish in comprehending an expository text. *Hispanic Linguistics, 4,* 129–148.

Lee, J. F. (1999). On levels of processing and levels of comprehension. In J. Gutiérrez-Rexach and F. Martínez-Gil (Eds.), *Advances in Hispanic Linguistics* (pp. 42–59), Somerville, MA: Cascadilla Press.

Lee, J. & Benati, A. (2009). *Research and perspectives on processing instruction***.** Mouton de Gruyter.

Lee J. F., Cadierno, T., Glass, W. & VanPatten, B. (1997). The effects of lexical and grammatical cues on processing past temporal reference in second language input. *Applied Language Learning, 8,* 1–27.

Lee, J. F. & VanPatten, B. (1995). *Making communicative language teaching happen.* New York: McGraw-Hill.

Long, M. (1980). *Input, interaction, and second language acquisition.* Unpublished doctoral dissertation, University of California, Los Angeles.

Long, M. (1983a). Does second language instruction make a difference? A review of the research. *TESOL Quarterly* 17, 359–382.

Long, M. (1983b). Linguistic and conversational adjustments to nonnative speakers. *Studies in Second Language Acquisition, 5 (2),* 177-193.

Long, M. (1985). lnput and second language acquisition theory. In S. Gass and C. Madden (Eds.), *Input in second language acquisition* (pp. 377-393). Rowley, MA; Newbury House.

Long, M. (1991). Focus on form: A design feature in language teaching methodology. In K. De Bot, R. Ginsberg and C. Kramsch (Eds.), *Foreign language research in cross-cultural perspective* (pp. 39–52). Amsterdam: John Benjamins.

Long, M. (1996). The role of the linguistic environment in second language acquisition. In W. Ritchie and T. Bhatia (Eds.), *Handbook of Second Language Acquisition* (pp. 413–468). San Diego, CA: Academic Press.

Long, M., Inagaki, S. & Ortega, L. (1998). The role of implicit negative feedback in SLA: Models and recasts in Japanese and Spanish. *Modern Language Journal, 82*, 357–371.

Loschky, L. C. (1994). Comprehensible input and second language acquisition: What is the relationship? *Studies in Second Language Acquisition, 16*, 303–325.

Mackey, A. & Philp, J. (1998). Conversational interaction and second language development: Recasts, responses, and red herrings? *Modern Language Journal, 82*, 338–356.

McDonough, K. (2001). *Exploring the relationship between modified output and L2 learning.* Unpublished doctoral dissertation, Georgetown University, Washington, DC.

Mitchell, R. & Myles, R. (2004). *Second Language Learning Theories*. London: Edward Arnold.

Nagata, N. (1998). Input vs. output practice in educational software for second language acquisition. *Language Learning and Technology, 1,* 23-40.

Pica, T. (1994). Research on negotiation: What does it reveal about second-language learning conditions, processes, and outcomes? *Language Learning, 44*, 493–527.

Pica, T, Holliday, L., Lewis, N. & Morgenthaler, L. (1989). Comprehensible output as an outcome of linguistic demands on the learner. *Studies in Second Language Acquisition, 11,* 63-90.

Pica, T., Young, R. & Doughty, C. (1987). The impact of interaction on comprehension. *TESOL Quarterly, 21,* 737-758.

Postman, L. (1971). Transfer, interference and forgetting. In J. W. Kling and L. A. Riggs (Eds.), *Woodworth and Schlosberg's Experimental Psychology* (pp. 1019–1132). New York: Holt, Rinehart and Winston.

Qin, J. (2008). The effect of processing instruction and dictogloss tasks on the acquisition of English passive voice. *Language Teaching Research 12,* 61-82.

Robinson, P. (1995). Aptitude, awareness, and the fundamental similarity of implicit and explicit second language learning. In R.W.Schmidt (Ed.), *Attention and awareness in foreign language learning* (pp. 303–349). Honolulu: University of Hawaii Press.

Rosa, E. & O' Neill, M. (1998). Effects of stress and location on acoustic salience at the initial stages of Spanish L2 input processing. *Spanish Applied Linguistics, 2,* 24–52.

Rossomondo, A. E. (2007). The role of lexical temporal indicators and text interaction format on the incidental acquisition of Spanish future tense morphology. *Studies in Second Language Acquisition, 29,* 39–66.

Salaberry, R. (1997). The role of input and output practice in second language acquisition. *The Canadian Modern Language Review, 8,* 281-308.

Sanz, C. (2004). Computer delivered implicit vs. explicit feedback in processing instruction . In B. VanPatten (Ed.), *Processing Instruction: Theory, Research, and Commentary* (pp. 245–59). Mahwah, NJ: Lawrence Erlbaum Associates.

Sanz, C. & Morgan-Short, K. (2004). Positive evidence vs. explicit rule presentation and explicit negative feedback: A computer-assisted study. *Language Learning. 54 (1),* 35-78

Sanz, C. & VanPatten, B. (1998). On input processing, processing instruction, and the nature of replication tasks: A response to M. Rafael Salaberry. *Canadian Modern Language Journal, 54,* 263–273.

Schmidt, R. (1984). The strengths and limitations of acquisition: A case study of an untutored language learner. *Language, Learning and Communication, 3,* 1-16.

Schmidt, R. (1990). The role of consciousness in second language learning. *Applied Linguistics 11,* 129-58.

Schmidt, R. W. (1994). Implicit learning and the cognitive unconscious: Of artificial grammars and SLA. In N. Ellis (Ed.), *Implicit and explicit learning of languages* (pp. 165-210). London: Academic Press.

Schmidt, R. W. (1995). Consciousness and foreign language learning: a tutorial on the role of attention and awareness in learning. In R.W. Schmidt (Ed.) *Attention and awareness in foreign language learning* (pp. 1–63). Honolulu: University of Hawaii Press.

Schmidt, R. W. (2001). Attention. In P. Robinson (ed.), *Cognition and Second Language Instruction* (pp. 3–32), Cambridge: Cambridge University Press.

Sharwood Smith, M. (1993). Input enhancement in instructed SLA: Theoretical bases. *Studies in Second Language Acquisition, 15 (2),* 165–179.

Shehadeh, A. (2002). Comprehensible output, from occurrence to acquisition: an agenda for acquisitional research. *Language Learning, 52 (3),* 597–647.

Skehan, P. (1998a). Task-based instruction. *Annual Review of Applied Linguistics, 18,* 268-286.

Skehan, P. (1998b). *A cognitive approach to language learning*. Oxford: Oxford University Press.

Swain, M. (1985). Communicative competence: Some roles of comprehensible input and comprehensible output in its development. In S. Gass and C. Madden (Eds.), *Input in Second Language Acquisition* (pp. 235–253). Rowley, MA: Newbury House.

Swain, M. (1993). The output hypothesis: Just speaking and writing aren't enough. *The Canadian Modern Language Review, 50,* 158-164.

Swain, M. (1995). Three functions of output in second language learning. In G. Cook and B. Seidlhofer (Eds.), *Principle and Practice in Applied Linguistics: Studies in honour of H.G. Widdowson* (pp. 125–144). Oxford: Oxford University Press.

Swain, M. (1997). Collaborative dialogue: Its contribution to second language learning. *Revista Canaria de Estudios Ingleses, 34,* 115–32.

Swain, M. (1998). Focus on form through conscious reflection. In C. Doughty and J. Williams (Eds.), *Focus on form in classroom second language acquisition* (pp. 64-81). New York: Cambridge University Press.

Swain, M. (2005). The output hypothesis: Theory and research. In C. Doughty and J. Williams (Eds.), *Handbook on research in second language learning and teaching* (pp. 471-484). Mahwah, NJ: Lawrence Erlbaum Associates.

Swain, M. (2007). The Output hypothesis and beyond: Mediating acquisition through collaborative dialogue. In M. Pawlak (Ed.), *Exploring focus on form in language teaching* (pp. 73-91). Poznan: Faculty of Pedagogy and Fine Arts in Kalisz.

Swain, M. & Lapkin, S. (1998). Interaction and second language learning: Two adolescent French immersion students working together. *Modern Language Journal, 82,* 320-337.

Swain, M. & Lapkin, S. (2002). Talking it through: Two French immersion learners' response to reformulation. *International Journal of Educational Research* (Special issue on the role of interaction in instructed language learning), 37, 285-304.

Terrell, T. (1991). The role of grammar instruction in the communicative approach. *The Modern Language Journal, 75,* 52–63.

VanPatten, B. (1990). Attending to form and content in the input. *Studies in Second Language Acquisition, 12,* 287–301.

VanPatten, B. (1993). Grammar Teaching for the acquisition-rich classroom. *Foreign Language Annals, 26,* 435-450.

VanPatten, B. (1996). *Input processing and grammar instruction: Theory and Research*. Norwood, NJ: Ablex.

VanPatten, B. (2002a). Processing instruction: An update. *Language Learning, 52 (4),* 755–803.

VanPatten, B. (2002b). Processing the content of input processing and processing instruction research: A response to DeKeyser, Salaberry, Robinson, and Harrington. *Language Learning, 52 (4),* 825–831.

VanPatten, B. (2004a). Input processing in SLA. In B. VanPatten (Ed.), *Processing Instruction: Theory, Research, and Commentary* (pp. 5–31). Mahwah, NJ: Lawrence Erlbaum Associates.

VanPatten, B. (2004b). Several reflections on why there is good reason to continue researching the effects of processing instruction. In B. VanPatten (Ed.), *Processing Instruction: Theory, Research, and Commentary* (pp. 329-340). Mahwah, NJ: Lawrence Erlbaum Associates.

VanPatten, B. (2007b). Input processing in adult second language acquisition. In B. VanPatten and J. Williams (Eds.), *Theories in Second Language Acquisition: An Introduction* (pp. 115–135). Mahwah, NJ: Erlbaum.

VanPatten, B. & Borst, S. (2012). The roles of explicit information and grammatical sensitivity in the processing of clitic direct object pronouns and word order in Spanish L2. *Hispania, 95 (2),* 270-284.

VanPatten, B. and Cadierno, T. (1993). Explicit instruction and input processing. *Studies in Second Language Acquisition*, *15,* 225–243.

VanPatten, B., Collopy, E., Price, J.E., Borst, S. & Qualin, A. (2013). Explicit information, grammatical sensitivity, and the first-noun principle: a cross-linguistic study in processing instruction. *The Modern Language Journal, 97 (2),* 506–527.

VanPatten, B., Farmer, J. L. & Clardy, C. L. (2009). Processing instruction and meaning-based output instruction: A response to Keating and Farley (2008). *Hispania 92 (1),* 124–135.

VanPatten, B. & Fernandez, C. (2004). The Long-term effects of Processing Instrcution. In B. VanPatten (Ed.), *Processing Instruction: Theory, Research, and Commentary* (pp. 277–93). Mahwah, NJ: Lawrence Erlbaum Associates.

VanPatten, B. & Houston, T. (1998). Contextual effects in processing L2 input sentences. *Spanish Applied Linguistics, 2,* 53–70.

VanPatten, B., Inclezan, D., Salazar, H. & Farley, A. (2009). Processing instruction and dictogloss: A study on object pronouns and word order in Spanish. *Foreign Language Annals, 42 (3),* 557-575.

VanPatten, B. & Oikkenon, S. (1996). Explanation versus structured input in processing instruction. *Studies in Second Language Acquisition, 18*, 495-510.

VanPatten, B. & Sanz, C. (1995). From input to output: Processing instruction and communicative tasks. In F. Eckman, D. Highland, P. Lee, J. Mileham and R. Rutkowski (Eds.), *Second language acquisition: Theory and pedagogy* (pp. 169-186). Mahwah, NJ: Erlbaum.

VanPatten, B. & Uludag, O. (2011). Transfer of training and processing instruction: from input to output. *System, 39*, 44–53.

VanPatten, B. & Williams, J. (2007a). Introduction: the nature of theories. In B. VanPatten and J. Williams (Eds.), *Theories in Second Language Acquisition: An Introduction* (pp. 1–16). Mahwah, NJ: Erlbaum.

VanPatten, B. & Wong, W. (2004). Processing instruction and the French Causative: Another replication. In B. VanPatten (Ed.), *Processing Instruction: Theory, Research, and Commentary* (pp. 99–120). Mahwah, NJ: Lawrence Erlbaum Associates.

White, L. (1990). Second language acquisition and universal grammar. *Studies in Second Language Acquisition, 12*, 12034.

Wong, W. (2004a). The Nature of processing instruction. In B. VanPatten (Ed.), *Processing Instruction: Theory, research and commentary* (pp. 33-65). Mahwah, NJ: Lawrence Erlbaum.

Wong, W. (2004b). Processing instruction in French: The role of explicit information and structured input. In B. VanPatten (Ed.), *Processing Instruction: Theory, research and commentary* (pp. 187-206). Mahwah, NJ: Erlbaum.