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THE ROLE OF PROCESSING
INSTRUCTION : A STUDY ON
ENGLISH CAUSATIVES

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(Doktora Tezi)

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THE ROLE OF PROCESSING INSTRUCTION :A STUDY ON ENGLISH
CAUSATIVES

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DOKTORA TEZ ÖZÜ**SÜREÇ ODAKLI DİL ÖĞRETİMİNİN ROLÜ: İNGİLİZCE'DEKİ ETTİRGEN ÇATI ÜZERİNE BİR ÇALIŞMA****Zehra Karacaer****İngiliz Dili Eğitimi Anabilim Dalı****Anadolu Üniversitesi Sosyal Bilimler Enstitüsü, Ekim 2003****Danışman: Doç. Dr. Ümit Deniz Turan**

Bu çalışma, süreç odaklı dil öğretimi ve geleneksel dil öğretiminin Türk öğrencilerin İngilizce'deki ettirgen çatıyı öğrenmelerindeki olası etkilerini karşılaştırmayı; bu iki öğretim yönteminin olası olumlu etkilerini ve bu öğrenmenin uzun süreli bellekte kalıcı olup olmadığını incelemeyi amaçlamıştır. Bu çalışma için, Eskişehir Anadolu Üniversitesi Yabancı Diller Yüksek Okulu'nda yedi sınıfta okuyan 120 Türk öğrenci rastgele üç gruba ayrılmıştır: a) süreç odaklı öğretim grubu, b) geleneksel öğretim grubu ve c) öğretim içermeyen kontrol grubu. İki farklı öğretim paketi ve bir ön sınav ve iki art sınav verilmiştir. Sınavlar yorumlama ve üretme olmak üzere iki görevden oluşmuştur. Uygulamadan iki hafta önce ön sınav verilmiştir. Öğretim ve art sınavı içeren uygulama 50 dakikalık iki ders saatinde yapılmıştır. Beş hafta sonra, aynı art sınav tekrar gruplara verilmiştir. Ön sınav ve art sınavlardan elde edilen ham puanlar iki yollu varyans analizi kullanılarak incelenmiş; bulgu ve sonuçlar tablolar ve şekillerle gösterilmiştir.

Yorumlama verilerinin analiziyle elde edilen bulgular, hem süreç odaklı grubun hem de geleneksel grubun uygulamalar sonucunda bir tür kazanım elde ettiğini; İngilizce'deki ettirgen çatıyı yorumlama konusunda olumlu bir etkiye sahip olduğunu göstermiştir. Süreç odaklı ve geleneksel gruptaki etkiler zaman içinde kalıcı olmuştur.

Üretim verilerinin analiziyle elde edilen bulgular, hem süreç odaklı grubun hem de geleneksel grubun uygulamalar sonucunda bir tür kazanım elde ettiğini; İngilizce'deki ettirgen çatıyı üretme konusunda olumlu bir etkiye sahip olduğunu göstermiştir. Bununla birlikte, süreç odaklı ve geleneksel gruplar ikinci art sınavda aynı başarıyı gösterememiştir. Geleneksel grubun puanlarındaki düşüş, süreç odaklı grubunkinden daha fazla olmuştur.

ABSTRACT

This study attempts to examine possible effects of two types of instruction: *processing* (PI) and *traditional* (TI) in learning of English causatives by Turkish learners and to see whether possible positive effects are retained well over time by PI and TI groups. For this study, seven classes of 120 Turkish students at the School of Foreign Languages at Anadolu University, Eskişehir, Turkey were randomly assigned to three groups: (a) processing instruction, (b) traditional instruction, and (c) no instruction. Two different instructional packets and a pretest and a post / follow-up test were administered. The tests consisted of two tasks: interpretation and production. The pretest was given two weeks before the treatment. The procedure regarding the treatment and the posttest spanned two 50-minute class periods. Five weeks later, the posttest was given as the follow-up test. Raw scores from the pretest, posttest, and follow-up test were submitted to a two-way analysis of variance (ANOVA). Results were shown in tables and figures.

The results of the analysis of the interpretation data indicated that both the PI and TI groups resulted in some kind of knowledge gain due to the treatments. Both the PI and TI groups had a positive effect on how learners interpreted the English causatives. The effects both the PI and TI groups were retained over time.

The results of the analysis of the production data indicated that both the PI and TI groups resulted in some kind of knowledge gain due to the treatments. Both the PI and TI groups had a positive effect on how learners produced the English causatives. However, both the PI and TI groups failed to show the same performance in the follow-up test, but the drop in the TI group's scores was greater than the drop in the PI's scores.

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1. INTRODUCTION

In the 1960s, studies in second language acquisition (SLA) sought to investigate what kind of grammar instruction most facilitated SLA (Sherer & Werheimer, 1964, cited in Cadierno, 1995). Second language research from the 70s to the present has aimed at investigating whether grammar instruction helps SLA. Here, grammar instruction means ‘teacher’s attempt to intervene directly in the process of interlanguage construction by providing samples of specific features of learning’ (Cadierno, 1995:179). Today, the role of grammar instruction is widely accepted (For a review of research on second language instruction, see Long, 1983 and Norris & Ortega, 2000).

Terrell (1991) points out that grammar instruction can affect the acquisition process in three different ways: (a) as an ‘advance organizer’, which gives the learner information about target language forms and structures that will help in processing the input; (b) as a meaning-form focuser for complex morphology, which can affect the acquisition process by helping the learner establish *a meaning-form relationship*, which is not salient and/or necessary for understanding the meaning of an utterance, for morphologically complex forms; and (c) as a monitor, which can help the learner produce more accurate and more complex sentences, and which can also serve as input to the acquisitional process. In short, Terrell suggests a role for grammar instruction helping the learner in the acquisition process since it can make certain grammatical forms more salient, thus helping the learner establish correct meaning-form connections.

Even though the role of explicit grammar instruction is considered to be important, observations show that still there are less proficiency gains (learners’ use of the selected grammatical structures accurately) in the learning of certain structures such as English causatives.

For example, Montrul (2001) investigated whether Spanish- and Turkish-speaking learners of English discover the semantic and syntactic constraints on the

causative / inchoative (e.g. 'The door opened.') alternation in the absence of overt morphological clues. She selected *lexical causatives* (e.g. *open, cut, sink, melt, etc.*) and the periphrastic causative *make*. The results of a *Picture Judgment Task* showed that L2 learners find these two types of causatives. However, the Turkish group, at a lower proficiency level than the Spanish group, accepted transitivity errors with unaccusative, unergative and non-alternating transitive verbs. The Turkish learners were very inaccurate with the periphrastic *make* construction while the Spanish learners were accurate, with a few exceptions.

1.1. Statement of the Problem

Regarding the less proficiency gains, students attending Eskişehir Anadolu University, Turkey can be a good example. These students are required to complete one-year preparatory program before starting their own school and are assigned to different language levels based on the score they get from *the Michigan Placement Test*. In this intensive preparatory program, students take six lessons: core course, grammar, writing, reading, speaking, and listening. A pedagogical grammar, represented in foreign language textbooks (Tonkyn, 1994; cited in Tschirner, 1996), is taught in a traditional fashion. In other words, rules are provided explicitly and then students are required to produce the structures taught. The activities are composed of mechanical ones such as *fill-in-the blanks, multiple choice, circle the correct answer*, which require students to work individually most of the time. Observations show that even intermediate level students make errors in most grammatical structures.

Like in Montrul's study, a pilot test administered by the researcher at the end of the 2000-2001 Spring Term showed that English *causative* constructions were problematic for Turkish learners of English at intermediate level even though they received plenty of exposure to English (see section 3.2. *The Pilot Test*). We can give the following explanations for the source of this problem: (1) developmental factors affect learners' learning of the English causatives; (2) the methodology of English causatives requires some modernization; that is, an alternative to the output-based traditional grammar instruction (Collentine, 1998 : 576); (3) it is

unlikely to reflect psycholinguistic processes; and (4) learners are not ready to learn the target structures (Heilenman, 1995) (See Pienemann, 1989 for teachability and readiness issues).

Garrett (1986) suggests a psychological processing approach to the teaching and learning of grammar. Following Garrett (1986) and VanPatten and Cadierno (1993), within the last few years, studies have been conducted on the relative effects of two different types of *explicit grammar instruction* (EGI) (see section 1.5.): *processing instruction* (PI) focusing on the learners' processing strategies followed by input-based practice and *traditional instruction* (TI) focusing on traditional grammar explanation followed by output-based practice (see section 1.5. for definitions of PI and TI).

VanPatten (1990, cited in Benati, 2001) has argued that 'processing instruction', which helps learners process information via comprehension practice might be more effective than traditional instruction which requires learners to produce language too prematurely.

The PI approach maintains that SLA occurs through a series of processes. The first of these processes occurs as learners drive intake from input. PI attempts to change learners' inefficient input processing strategies so that they may make better form-meaning connections (see section 2.8. for further information on PI).

1.2. Objectives and Significance of the Study

This study aims at examining the possible effects of two types of grammar instruction: *processing* and *traditional* in the learning of English causatives by Turkish learners. In addition, this study attempts to test whether possible positive effects are retained well over time by PI and TI groups.

This study may make a significant contribution to grammar instruction, specifically, to teaching of the causative constructions in English. If the positive effects of processing instruction are found, this will lead us to conclude that processing instruction can be an alternative to traditional instruction. Thus, we can use *structured input activities* (see section 1.5. and section 2.8.1.) employed in processing instruction while teaching the English causatives.

1.3. Variables of the Problem

Dependent Variables: Scores on interpretation and production tasks

Independent Variables: Instruction- processing, traditional, and control; time- pre-test through follow-up test

Control Variables: Age and the L2 proficiency level of the subjects

1.4. Statement of the Research Questions

The study addresses the following research questions:

1. Will there be any statistical differences among the interpretation of the English causatives by the following groups of learners:
 - a) those who receive processing instruction,
 - b) those who receive traditional instruction, and
 - c) those who receive no instruction on the English causatives?
2. Will there be any statistical differences among the production of the English causatives by the following groups of learners:
 - a) those who receive processing instruction,
 - b) those who receive traditional instruction, and
 - c) those who receive no instruction on the English causatives?
3. Would the possible positive effects for instruction on the interpretation task be retained equally well over time by the two instructional groups (processing and traditional)?
4. Would the possible positive effects for instruction on the production task be retained equally well over time by the two instructional groups (processing and traditional)?

1.5. Operational Definitions

In the following, the definitions of frequently used terms in this study are given.

Explicit Instruction: Following DeKeyser (1995), an L2 instructional treatment was considered to be explicit if rule explanation comprised part of the instruction or if learners were directly asked to attend to particular forms and to try to arrive at metalinguistic generalizations on their own.

The main question in explicit instruction is whether to teach explicit rules directly or to develop activities that enable learners to discover the rules for themselves (Ellis, 1998). Direct explicit instruction involves in the form of oral or written explanations of grammar points. They can be presented with exercises in which learners try to apply the rule they have learned or without exercises. In indirect explicit instruction, learners complete *consciousness-raising tasks* in which they analyze data showing a specific grammatical rule (For further information about consciousness-raising, see Fotos, 1993, 1994; Fotos & Ellis, 1991; Öncü, 1998 among others).

Input: The most common meaning used in SLA is language data that the learner is exposed to. Input studies are the studies of the actual language that the learner is exposed to (Sharwood Smith, 1993:166). Input is used to mean comprehensible, meaning-bearing input. This term is synonymous with Krashen's use of input.

Structured Input: The input used in processing instruction is called 'structured input'. Here, the input is not spontaneous, but it is purposely 'prepared' and 'manipulated' (see section 2.8.1.).

Input Processing: Input processing, one of the processes in VanPatten's model of acquisition, involves psycholinguistic strategies and mechanisms by which learners derive intake from input (see section 2.7.).

Intake: It is linguistic data held in working memory during real time comprehension (see section 2.6.).

Processing Instruction: It is one kind of comprehension approach to focus on form (VanPatten, 2002b: 827). It is a sort of grammar instruction which aims to

affect the ways in which learners attend to input data. It is input-based and consonant with both general second language theory and communicative language teaching (VanPatten, 1996) (see section 2.8.).

Traditional Grammar Instruction: It is one kind of output-oriented approach to form (VanPatten, 2002b: 827). It involves explanation and output practice of a grammatical point and focuses on the manipulation of learner output to affect change in the developing system (see section 2.1. and section 2.8.).

Form-meaning connection: It refers to the connection that the learner's internal processors make between referential real-word meaning and how that meaning is encoded linguistically. An example is the connection between the inflectional suffix /-t/ and 'past time reference' in English.

Developing System: It refers to 'learner's grammar' or learner's interlanguage, or learner's linguistic competence.

Processing Strategy: It refers to the unconscious strategies that learners employ to map meaning onto input sentences such as assigning agency to a noun in a sentence or a determining plurality versus non-plurality of a noun. These strategies are psycholinguistic in nature and are not synonymous with the concept of 'learning strategies' (see section 2.7.).

The First Noun Strategy: Learners have a default strategy that assigns the role of agent (or subject) to the first noun (phrase) they encounter in a sentence/ utterance. This is called the first noun strategy. It is the third principle (P3) of input processing (VanPatten, 1996) (see section 2.7. and section 2.8.3.).

1.6. Scope of the Study

The scope of the study is given below:

- ❑ The sample size of this study is small (120 subjects), but larger than most studies conducted in PI research (see section 2.8.3.).
- ❑ Individual differences are not taken into account.
- ❑ Further research should be carried out to compare the effects of processing instruction in the learning of different linguistic features in English.
- ❑ The tasks on the pretest and the post/follow-up test have no communicative behavior; that is, students are not asked to speak or to do pair-work.
- ❑ The study is at sentence level. Further studies may involve causatives at discourse level.
- ❑ Only one processing strategy (*the first noun strategy*) is investigated.
- ❑ Passive causatives are not examined. In a future study, they can be studied with causative verbs *have*, *make*, and *get*.
- ❑ Long-term effects of the two instructions under investigation should be re-examined since the long-lasting effects of instruction in this study are measured only over a period of five weeks.
- ❑ In this study, input is controlled, not spontaneous. In the future studies, spontaneous input can be used by adding oral tasks.

1.7. Outline and Organization of the Study

This study consists of the following chapters:

Chapter One: Introduction to the statement of the problem, the significance of the study, the variables of the problem, operational definitions, research questions, and the scope of the study are presented.

Chapter Two: Literature Review is on traditional approaches to grammar instruction, communicative language teaching, focus on form, input-based approaches to grammar instruction, attention and language learning, input processing, and processing instruction.

Chapter Three: Method of the study including information about the subjects, instruments (instructional packets and assessment tasks), data collection procedures, and data analysis is provided. Definition of the English causatives and results of pilot studies are also mentioned.

Chapter Four: Results and findings of the study are discussed and presented in tables and figures. Evaluation of the findings is also included.

Chapter Five: Discussions and conclusions are summarized; pedagogical implications and suggestions for further research are presented.

2. REVIEW OF LITERATURE

Since there is a mismatch between the widely accepted role of input in SLA and the output-based grammar instruction and practice, traditional output-based approaches to grammar teaching are problematic (VanPatten, 1996). We cannot find the communicative meaning-bearing input in traditional grammar instruction. Traditional grammar instruction is in contrast to the more learner-centered and content-based nature of communicative classrooms.

VanPatten (1996: 59) suggests that an input-based approach to grammar instruction will be better than a traditional output-based approach to grammar instruction, *'only if the instruction takes into consideration the nature of input processing.'*

In this chapter, the focus areas are traditional approaches to grammar instruction, communicative language teaching, focus on form, input-based approaches to grammar instruction, attention and learning, input processing, and processing instruction. VanPatten (1996, 2002) states that processing instruction is one kind of focus on form or input enhancement. This chapter includes sections on communicative language teaching, which shows the transition from traditional instruction (*focus on forms*) to task-based focus on form, and *focus on form* and the relationship between focus on form and processing instruction. The section entitled input-based approaches to grammar instruction provides the theoretical rationales which underlie input-based approaches. Since attention is a motivation for the first two principles of the input processing model, a discussion on attention will also be presented. Input processing and processing instruction will be dealt with to complete the background for our study.

2.1. Traditional Approaches to Grammar Instruction

Depending on the goal of instruction, grammar instruction has had a variety of forms. In grammar-translation approaches, the goal of foreign language learning was to read the great works of literature in that language. Grammar-translation

dominated in language teaching until the emergence of Audio-lingual Method, which was supported by American structural linguistics and the theory of behaviorism. In audio-lingual method, the grammatical system was viewed as a set of habits to be internalized through practice and reinforcement. Without knowing the rules, learners had to correctly repeat, transform, and perform other manipulations on sentences orally as a necessary first step toward communicative ability with the language.

When behaviorism and structural linguistics lost influence, cognitive code learning emerged. Cognitive code theory claimed that learners must know what they are learning and have some conscious mental representation of it before practice.

Paulston (1972, cited in VanPatten, 1996) described a taxonomy of practice types and sequential ordering of them. In this taxonomy, Paulston claimed that mechanical practice should precede meaningful practice, meaningful practice should precede communicative practice for any given grammatical point. Her taxonomy is shown in figure 2.1.:

Sequencing	Characteristics
mechanical	1. Learner does not need to attach meaning to sentences in order to complete the practice.
↓	2. There is one and only right correct response. Ex: transformation drill
meaningful	1. Learner needs to attach meaning to both stimulus and response.
↓	2. There is one and only right correct response; the intended meaning of the learner is already known by the instructor (or fellow learner). Ex: answering questions such as,
communicative	“What time does this class begin?”
	1. Learner needs to attach meaning to both stimulus and response.
	2. Intended meaning of the learner is not known by the instructor (or fellow learner).
	Ex: answering questions such as,
	“Do you have posters in your dorm room?”

Figure 2.1.. Paulston’s taxonomy of practice types and their sequential ordering

2.2. Communicative Language Teaching

In the 1970s, it was observed that even though the learners knew grammar rules, they could not use the target language communicatively. As a result of this, a new type of instruction called *communicative language teaching* arose in language

teaching. In this instruction, quantities of meaning-focused input containing target forms and vocabulary were presented (Hinkel & Fotos, 2002). Krashen's *Monitor Model* affected the rise of communicative instruction. This model of language acquisition consists of five hypotheses: the Acquisition Hypothesis, the Input Hypothesis, the Monitor Hypothesis, the Natural Order Hypothesis, and the Affective Filter Hypothesis. It says that acquisition begins with listening comprehension; after a silent period, speech emerges spontaneously and passes through stages like those of L1 acquisition (Krashen & Terrell, 1983: 20; cited in Whitley, 1993).

Communicative language teaching (CLT) aims at providing opportunities for learners to participate in interaction where the primary goal is to exchange meaning rather than to learn the L2 (Fotos & Ellis, 1991). The learning of L2 depends on the presence of 'comprehensible input' ($i+1$) in the form of meaningful activities. Thus, CLT does not include explicit grammar instruction or correcting learner errors.

The activities, materials and strategies of CLT modified the language classroom; changed its focus from form into function and from teacher into learner and caused curriculum to be rich (Pica, 2000).

However, research has indicated that these activities, materials, and strategies have not been enough for learners to reach the proficiency level for effective language use (Swain, 1985; Lightbown & Spada, 1993).

Although Krashen's model of L2 acquisition did not require explicit grammar instruction, H. D. Brown (1994), Larsen-Freeman (1991), Lightbown & Pienemann (1993), Long (1991), McLaughlin (1987), among others, pointed out that grammatical competence is essential for communication but cannot be attained only through exposure to meaningful input.

Terrell (1991) pointed out that some initial explicit grammar helps students focus on what to listen for in subsequent input and by feeding a learned rule to the monitor, lets them acquire it from their own output.

Another limitation of CLT is that academic and professional speaking and writing are difficult to attain in the process of naturalistic learning (Hinkel & Fotos, 2002).

2.3. Focus on Form

A number of researchers claimed that communicative language teaching should involve systematic treatments to draw L2 learners’ attention to linguistic forms to develop well-balanced communicative competence (Doughty & Williams, 1998; Long & Robinson, 1998; Swain, 1985). Long (1991) pointed out that there was a need to incorporate form-focused instruction into meaning-oriented communicative language teaching and used the term ‘focus on form’ and defined it as *a type of instruction in which the primary focus is on meaning and communication, with the learner’s attention being drawn to linguistic elements only as they arise incidentally in lessons*. Focus on form requires a task-based syllabus. Activities that require the learner to communicate while focusing learner attention on specific forms are used; the instructor provides corrective feedback on learner’s errors during the course of communication (Oram & Harrington, 2002). This type of instruction is in contrast with traditional grammar instruction (*focus on forms*), which places a focus on forms themselves in isolation and follows a structural syllabus (Long, 1991, 45-46).

Table 2.1. shows the basic approaches to form-focused instruction:

Table 2.1. Types of form-focused instruction (Ellis et al., 2002)

Type	Syllabus	Primary focus	Distribution
1. Focus on forms	Structural	Form	Intensive
2. Planned focus on form	Task-based	Meaning	Intensive
3. Incidental focus on form	Task-based	Meaning	Extensive

As seen in the above table, there are two types of focus on form instruction: *planned focus on form* and *incidental focus on form*. The former involves the use of communicative tasks designed to elicit the use of a specific linguistic form in the context of meaning-centered language use. For example, *same-or-different task* can be used to present pairs of pictures which require learners to use ‘at’ and ‘in’ in order to decide whether the pictures are the same or different. Planned focus on form seems to be similar to focus on forms instruction since a specific form is pre-

selected for treatment, but it is different from focus on forms in two ways. First, attention to form occurs during conversation while primary focus is on meaning. Second, learners are not made aware of the specific form that is being targeted and are expected to act like ‘language users’ rather than ‘learners’ while performing a task (Ellis et al., 2002: 420-421).

Incidental focus on form involves the use of communicative tasks which aim at eliciting general samples of the language rather than specific forms. Such tasks may require no attention to form. However, the students and teacher may choose to incidentally attend to various forms while performing a task. In this case, many different forms are likely to be treated shortly rather than a single form addressed many times. For example, students may ask the teacher about a particular form such as the meaning of a key word they do not know (Ellis et al., 2002: 421).

It should be said that both types of focus on form require the use of a communicative task. In planned focus on form, the teacher chooses the task to target a specific form. In incidental focus on form, the forms are not pre-determined but occur naturally out of the performance of the task (Ibid).

Figure 2.2. displays the differences between focus on forms and focus on form:

Focus on Forms	Focus on Form
• Isolation of forms • Consciousness-raising techniques for explicit knowledge and rules • Practice of individual structures	• Focus on meaning and form in overall context of communication • Meaning negotiation with focus on formal properties of language used • Correction of errors during communicative activities

Figure 2.2. *Focus on forms vs. Focus on form* (adapted from Ellis, 1994; Stern, 1992; cited in Burgess & Etherington, 2002: 438)

As seen in figure 2.2., the differences between *focus on form* and *focus on forms* seem to be clear-cut. However, as Sheen (2002: 304) stated, ‘there is tendency by some researchers (e.g. DeKeyser, 1998; Lightbown, 1998, 2000) to use focus on form to refer to any approach which includes grammar instruction, thus including both *focus on form* and *focus on forms*.’

Norris & Ortega (2000) compared the efficacy of ‘focus on form’ and ‘focus on forms’ and carried out an analysis of relevant studies. For them, focus on form has the following criteria (p. 438): (a) designing tasks to promote learner engagement with meaning prior to form; (b) seeking to attain and document task essentialness or naturalness of the L2 forms; (c) seeking to ensure that instruction was unobtrusive; (d) documenting learner mental processes (‘noticing’). They concluded that ‘a focus on form and focus on forms are equally effective.’

2.3.1. Focus on Form Through Corrective Feedback

Researchers have attempted to implement form-focused instruction in communicative language teaching by providing interactional modifications such as recasts and requests for repetition in L2 classrooms. Doughty & Varela (1998) examined the effects of recasting on L2 learning in the context of a content-based ESL science class. Results demonstrated that learners who were given recasts showed greater improvements in accuracy and a higher total number of attempts at past-time reference than the control group.

Long, Inagaki, & Ortega (1998) conducted two experiments to assess the utility of models and recasts in L2 Japanese and Spanish. In each experiment, they found some evidence of the ability of adult L2 learners to learn from implicit negative feedback, and in the Spanish study, they found that reactive implicit negative feedback (recasts) were more effective than preemptive positive input (models).

Mackey & Philp (1998) examined the effect of recasts on ESL learners’ interlanguage development of question forms. They compared groups of ESL learners who received interactionally modified input with learners who received the same input containing recasts. Their results show that recasts may be beneficial even when they are not incorporated in learners’ immediate responses.

Lyster & Ranta (1997) found that recasts were less effective in eliciting student-generated repair than other types of feedback (clarification requests, repetition, metalinguistic feedback, and elicitation). Lyster & Ranta’s results and the results of other recast studies on particular forms (e.g. Doughty & Varela, 1998; Mackey &

Philp, 1998) denote that recasts might have weaker effects on L2 learning when they do not focus on specific forms (Muranoi, 2000).

Muranoi (2000) investigated the effect of interaction enhancement (IE), in which interaction was enhanced by means of feedback provided by a classroom teacher, on the learning of English articles. IE guided learners to focus on form by providing interactional modifications and led learners to produce modified output within a problem-solving task. Two different IE treatments were used: IE plus formal debriefing (IEF) and IE plus meaning-focused debriefing (IEM). Results showed that IE had positive effects on the learning of English articles and the IEF treatment had a greater effect than the IEM treatment. The findings of this study reaffirm the claim that when form-focused treatments are integrated into meaning-oriented interactive tasks in a timely fashion, this kind of instruction facilitates L2 learning. Muranoi's study suggests that 'IE treatments that systematically combine such instructional techniques as output enhancement, input enhancement, problem solving tasks, and explicit grammar instruction can be beneficial for guiding EFL learners to restructure their interlanguage systems' (Muranoi, 2000: 663). This is in contrast with Krashen's view that errors should not be corrected.

For Ellis (1994: 641), 'a focus on form approach to language instruction is attractive as it provides a way of integrating 'fluency' and 'accuracy' work but it may be premature to reject a focus on forms approach since there is plenty of evidence to suggest that formal instruction can help learners improve the *accuracy* of features they have already learned.'

2.4. Input-based Approaches to Grammar Instruction

Ellis (1998) uses the term 'option', which refers to a specific strategy for delivering instruction. He identifies four macro-options based on a psycholinguistic model of L2 acquisition: (1) *input-based instruction*, (2) *explicit instruction*, (3) *output-based instruction*, and (4) *feedback*. We realize each macro-option with various micro-options. Grammar lessons are usually composed of combinations of options. For example, a traditional grammar lesson may start with a grammar explanation (option 2) and continue with production practice (option 3) and finish with feedback (option 4).

The input-based option is an attempt to intervene directly in the process of interlanguage development by manipulating the input exposed by learners. Thus, it represents one kind of comprehension-based language teaching (Gary, 1978; Winitz, 1981, cited in Ellis, 1999).

In this section, we will focus on the following theoretical rationales for input-based grammar teaching.

2.4.1. Theoretical Rationales for Input-Based Formal Instruction

Research investigating input-based grammar teaching has been informed by the theories of L2 acquisition. These L2 theories are: (1) Universal Grammar, (2) information-processing theories, and (3) skill-learning theories.

2.4.1.1. Universal Grammar

Universal Grammar (UG) is a mentalist theory claiming that human beings biologically possess an innate language faculty that enables them to acquire the grammar of particular languages. This faculty is composed of knowledge of certain *abstract principles* regarding the properties of language together with knowledge of the *parameters* through which the principles are realized in different languages. Principles are universal and available to all children from birth, while parameters are language specific. For example, *structure dependency principle* indicates that understanding a sentence is understanding the structural relationship between components of that sentence. *Pro-drop parameter* (deleting subject pronouns) can be given as an example. It is specific to some languages such as Turkish, Italian, Spanish, Russian and so on. However, in English, subject pronouns cannot be deleted.

What the language learner should do is to discover which parameters need to be 'set' for whatever he or she is attempting to learn (see also section 2.7.1. in order to understand the relationship between UG and input processing).

In this model, input 'triggers' parameter setting. UG is activated through exposure to input. According to UG theory, parameter setting emerges

instantaneously after having a minimal exposure to input containing the appropriate triggers (Cook, 1991). It is said that for parameter setting, there is a need for 'positive linguistic evidence', rather than 'negative linguistic evidence' provided by error correction. In L1 acquisition, children set parameters. On the other hand, in L2 acquisition, learners have to *reset* parameters. For example, French-speaking learners of L2 English are required to discover the position of adverbs which is between the subject and the verb as in:

Mary usually eats fish on Friday.

However, in French, an adverb can be between the verb and the object, but in English it is illicit as seen in the example below:

* Mary eats usually fish on Friday.

It is questionable whether French learners of L2 English can achieve the necessary parameter resetting simply through exposure to positive linguistic evidence (Cook, 1991; Ellis, 1999; White, 1989). Since the L2 learner also has the L1 available, negative evidence can be used to work out what does not occur in the L2 but might be expected to occur if it were like the L1 (Cook, 1991: 117).

According to White (1989: 48), whether adult L2 learners have continued access to UG is controversial. In other words, in L1, there is direct access to UG, while in L2, it is not so clear whether UG is *dead* or *alive* or accessed *partially* or *fully*.

The availability of UG to L2 learners has been investigated. For example, Ellidokuzoğlu (2002) examined the controversial issue of the availability of innate linguistic knowledge in the minds of post-pubescent Turkish learners of English. The 85 Turkish learners and 31 native speakers of English participated in his study. *The Subjacency* (each language has its own specific boundaries over which movement is restricted in certain ways), *Empty Category* ((a licensing condition on the traces of moved sentence constituents) , and *Pro-drop* (deleting subject pronouns) *parameters* which show variation between Turkish and English were used in designing the tasks. The results showed that non-native subjects had some form of access to UG. Although they did not perform as high as the native controls, some parallelisms were found between native and nonnative scores. This showed that post-pubescent L2 learners have access to the innate linguistic knowledge.

‘The UG principles are not learned, the parameter settings probably need little attention, but the UG model firmly reminds us that learners have minds and that one crucial question is the form that language knowledge takes in the human mind’ (Cook, 1991: 120) (see also Hawkins, 2001 for the theoretical significance of UG in SLA).

2.4.1.2. Information-processing Theories

Information-processing theories claim that language learning carries on like other types of learning. General cognitive mechanisms process information in the input so as to reach a mental representation of the target language.

According to the ‘noticing hypothesis’ (Schmidt, 1990; Schmidt & Frota, 1986), L2 learners are required to attend consciously to linguistic features in the input in order to cause intake to occur (For intake, see section 2.6.). Schmidt (1990) distinguishes between consciousness as intentionality and consciousness as attention. He points out that learners learn incidentally; that is, they do not have to make a conscious decision to learn but that they cannot learn sublimally; that is, they have to be conscious of what they attend to. Schmidt differs from Krashen (1985, cited in Ellis, 1999) and Tomlin & Villa (1994), who focus on the learners’ detection of linguistic features in the input subconsciously. We can say that form-focused instruction can help learners by moving them consciously to notice linguistic features in the input. This results in intake. Since not everything that becomes intake is integrated into the learner’s developing system, noticing may not be sufficient for acquisition (Carroll, 1999; Ellis, 1999; Truscott, 1998).

Information-processing theory also claims that human beings have limited processing capacities. Filter models suggest that attention is selective; that is, it allows learners to store only selected information. Capacity models permit attention to be allocated to more than one task but only one or both of the tasks can be performed automatically. In the case of L2 acquisition, VanPatten (1989, cited in Ellis, 1999) suggested that beginner learners may have difficulty attending simultaneously to form and meaning. As a result, having learners focus on form while processing input for meaning may negatively influence comprehension.

Having learners focus on meaning may prevent them from noticing linguistic forms in the input if these forms are meaningless. The role of input-based grammar instruction is to help learners to focus on form, or rather form meaning relationships, in the input.

Language learners take advantage of specific strategies to process input. In order to process the argument structure in sentences like ‘Mary was cursed by John’, both L1 and L2 learners apply ‘first noun strategy’ (Gass, 1989, cited in Ellis, 1999) (For further information, see section 2.7.). They think that agent of the sentence corresponds to the first noun. In some cases, this results in an incorrect parsing. For example, in Spanish, which has flexible word order, this strategy is not effective. Input-based instruction can inform learners which processing strategies do and do not work.

2.4.1.3. Skill-learning Theories

According to skill-learning theories, we can learn new skills as a result of practice. For instance, Anderson’s *Adaptive Control of Thought Model (ACT*)* (1976, 1980, 1993, cited in Ellis, 1999) views language learning as involving a progression from an initial declarative knowledge stage to a final procedural stage where knowledge is automatic. For Anderson, L2 learners achieve knowledge through practice in using the L2.

The ACT* theory has two separate long-term memories: *declarative* and *procedural*. ‘Declarative knowledge is knowledge THAT, e.g., Washington DC is the capital of the US; procedural knowledge HOW to do something, e.g., shifting gears in a car or using the right form of a verb’ (DeKeyser, 2001: 132).

In skill-building theories such as Anderson’s, it is essential to provide large amounts of input and enough practice to achieve automatization. This is in contrast with UG since UG claims that minimal amounts are sufficient for parameter setting. In addition, in skill-building theory, practice via input-based instruction may only serve to improve learners’ ability to comprehend the target structure rather than to produce it. This theory differs from information-processing theory, which claims that input-based instruction will facilitate both comprehension and production

because comprehension and production draw on the same underlying knowledge source (Ellis, 1999: 67) (see also DeKeyser, 1996, 2001 for automatization).

To sum up, different theories can be tested through studies designed to examine the effects of teaching L2 learners specific grammatical points under different conditions. In the case of UG, positive input alone is sufficient for acquisition to occur. In input-processing model, it is claimed that input-based practice works better than production-based practice. Skill-building theory claims that input-based and production-based instruction leads to gains only in the particular skill being practiced (i.e. comprehension or production) (Ellis, 1999).

2.5. Attention and Language Learning

In SLA theory, input is seen as the root of language learning (e.g., Faerch & Kasper, 1986; Gass, 1997; Gass & Madden, 1985; Krashen, 1982; VanPatten, 1993, 1996) and from a cognitive perspective, attention to input determines internalization of language (e.g., Long, 1991; Schmidt, 1990; Tomlin & Villa, 1994).

2.5.1. Attention and Awareness in Cognitive Psychology

For Robinson (1995: 287-288), the concept of *attention* can be used to describe (a) the processes involved in selecting the information to be processed and stored in the memory; (b) our ‘capacity’ for processing information, and (c) the mental ‘effort’ involved in processing information. In psychology, the basic assumptions related to attention have been that it is limited, that it is selective, that it is partially subject to voluntary control, that attention controls access to consciousness, and that attention is essential for action control and for learning (Schmidt, 2001: 11-12).

Tomlin & Villa (1994) define attention as a limited capacity system characterized by *awareness*, *alertness*, *orientation*, and *detection*. Instruction affects awareness, motivation affects alertness, and orientation. Detection is the central part of the system and is influenced by all three of the above (Salaberry & Ortega, 1998).

Schmidt (1990) has emphasized detection, saying that *noticing* is essential for learning. Sharwood Smith (1993) emphasizes the term of *input enhancement*: Students can be made aware of those features of the input considered necessary for the processing of the L2 grammar.

Awareness, on the other hand, is ‘the subjective experience of any cognitive content or external stimulus’ (Tomlin & Villa, 1994: 194).

For Ellis (2002: 29), there are two types of awareness. In the first type, learners are required to be aware of the formal properties of the language in the input. In other words, they can be made to consciously ‘notice’ them. In the second one, learners are made aware explicit representation of a target form (i.e., developing explicit knowledge) (see figure 2.3.).

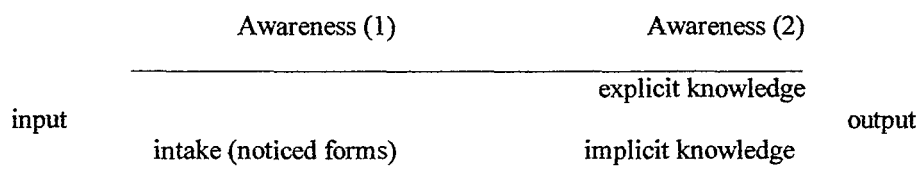


Figure 2.3. Two types of awareness in L2 acquisition (Ellis, 2002: 29)

The effects of attention and awareness in learning have been widely examined in cognitive psychology (e.g., Anderson, 1983; Dawson & Schell, 1987; Dulany, 1991; Dulany, Carrlson, & Dewey, 1984, 1985; Ericsson & Simon, 1984; Kihlstorm, 1984, 1987; Reber, 1976, 1989, 1993; Reber, Allen, & Regan, 1985; cited in Rosa & O’Neill, 1999). Divided attention studies have had mixed results for the claims that learning may occur without awareness. For example, in Nissen & Bullemer (1987, cited in Rosa & O’Neill, 1999), subjects were required to perform a dual task in which they had to follow the appearance of a light in different positions and count tones. Learners in this dual-task condition showed no learning of the sequence of lights when compared to a control group who had had no previous experience with such a task. The dual task had kept learners from paying focal attention to the position of lights. Their study demonstrated that in single-task conditions, subjects were less aware in some learning of stimuli sequences.

Robinson (1995) claimed that learning without awareness is so limited that its effects are negligible. He argued that permanent encoding of a stimulus into

memory cannot emerge without detection plus noticing and subsequent rehearsal of noticed material in short-term memory.

In her study, Wong (2001a) addressed the effect of modality on attention to meaning and form by including a written mode and by using English as a foreign language and she used six tasks: (a) listening to the passage for content only, (b) listening for content while attending to the content word *inflation*, (c) listening for content while attending to the definite article *the*, (d) reading the passage for content only, (e) reading the passage for content while attending to the content word *inflation*, and (f) reading for content while attending to the definite article *the*. The results indicated that listening was more difficult than reading and modality can be a variable that influences how learners process input.

To conclude, 'we cannot ignore the growing body of research in SLA that demonstrates that a greater degree of attention, and in some cases also awareness, leads to more learning. Thus, no matter what position one takes on the awareness issue, there is a general consensus that attention to input is a crucial construct for SLA.' (Wong, 2001a: 346)

2.5.2. The Implicit vs. Explicit Learning Issue

The possibility of learning without awareness has often been viewed in terms of implicit and explicit learning. In cognitive psychology, this distinction has been made by creating (a) *an explicit learning condition*, in which learners are required to look for rules underlying the input, (b) *an implicit learning condition*, in which learners are required to memorize the input.

Figure 2.4. shows the differences between explicit and implicit issues:

Explicit	Implicit
• Conscious learning • Explicit knowledge • Cognitive learning through explanation, conceptualization, observation • Monitoring output through conscious rules	• Subconscious learning • Belief that language is too complex to be fully described and understood in conscious way • Behaviorist learning • Exposure to language in use

Figure 2.4. Explicit vs. Implicit (adapted from Ellis, 1994 ; Stern, 1992 ; cited in Burgess & Etherington, 2002 : 438)

In the SLA field, the implicit versus explicit issue has been argued in different ways. Some researchers have pointed out that conscious learning and unconscious acquisition are non-interfaced (e.g., Krashen, 1982) and that adult SLA takes place through the same mechanisms as child L1 acquisition. For example, Schwartz (1993) has discussed the superiority of knowledge acquired through unconscious processes when compared to the limitations of learning explicitly. Under this framework, the availability of Universal Grammar (UG) has been suggested. L2 input has the only source of evidence necessary when the target structure is part of UG. When a certain L2 structure is not part of UG, or when it is a subset parameter of the L1, negative evidence is needed for the learner to acquire the given form.

As an alternative to the framework above, other researchers have studies based on an interface between implicit and explicit forms of knowledge.

Hulstijn (1989, cited in Rosa & O'Neill, 1999) assumed that implicit learning still needs the learner's attention to the formal features of the language. Hulstijn directed learners' attention to meaning, form, or meaning and form. Hulstijn found that the meaning group outperformed the form group when scored for content; the form group was superior to the meaning group when scored for grammar.

Robinson studied the implicit versus explicit issue and its relationship with awareness. Robinson (1996) investigated 104 Japanese (mainly) adult students of English learning both an easy rule and a complex rule. The subjects viewed the sentences on a computer screen under varying conditions. One group (labeled *the implicit group*) was simply asked to remember the sentences. A second group (called *the incidental group*) was given comprehension questions about the sentences, to which they answered *yes* or *no*. A third group (*the rule-search group*) was asked to identify the rules illustrated by the sentences, and the fourth group (*the instructed group*) first received direct explanations of the rules and then tried to apply them to the sentences. The group receiving explicit explanations outperformed all the other groups on a grammaticality judgment task administered immediately after the treatment. This study did not have a delayed test. It is not clear whether the advantage Robinson found for the instructed group was maintained over time. It can be argued that the grammaticality judgment task in Robinson's study favored the

explicit instruction group because it could be answered using explicit knowledge (Ellis, 1998:49).

In another study, Robinson (1997) provided learners with sentences containing the target structure under the implicit, incidental, and instructed conditions. He added an enhanced condition requiring simultaneous learner attention to both meaning and form. In this condition, he enhanced the target structure by means of a box drawn around it. On the three-item questionnaire, learners' noticing of the rules was facilitated by the enhancement condition. However, only instructed group outperformed the other groups when judging novel items on a transfer grammaticality judgment task.

Rosa & O'Neill (1999) investigated how intake was influenced both by awareness and by the conditions under which a problem-solving task was performed. Spanish conditional sentences were presented to learners through five different degrees of explicitness: (1) *formal instruction and rule search*; (2) *formal instruction and no rule search*; (3) *no formal instruction and rule search*; (4) *no formal instruction and no rule search*; and (5) *task only- control*. Intake was measured through a multiple-choice recognition test administered immediately after the task. Level of awareness was evaluated by means of think-aloud protocols collected during input processing. Results showed that (a) the degrees of explicitness had a differential effect on intake, (b) the higher the level of awareness shown, the stronger the effect on intake, and (c) the conditions under which the task was given affected the way information was processed.

2.6. Intake in SLA

In current SLA research, the role of input in SLA is a main issue. The relationship between L2 input and L2 learners' developing linguistic systems has been investigated in order to describe cognitive processes involved in SLA. One domain providing important information on learners' cognitive processes is *intake*. Corder (1967: 165, cited in Carroll, 1999) points out that input is the language in the learning environment while intake is what the learner attends to. (see figure 2.5.).

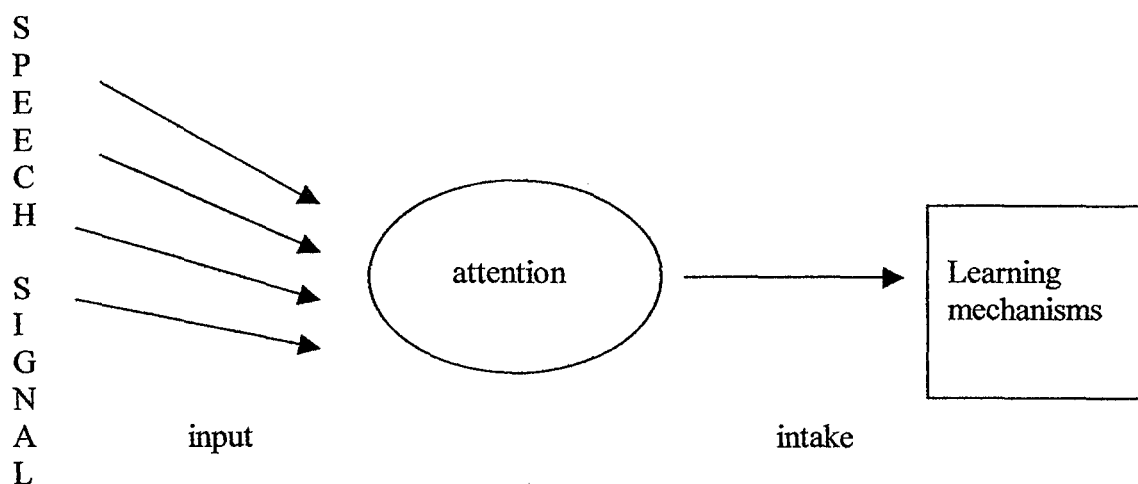


Figure 2.5. *The Corderian input / intake distinction* (Carroll, 1999: 342)

The distinction between input and intake suggests that there is at least one intermediate stage of input processing through which the input L2 learners receive must pass before any or all of it can become part of learners' developing linguistic system. Intake is part of the input that has been attended to by L2 learners while processing the input. 'Intake represents stored linguistic data that may be used for intermediate recognition and does not necessarily imply language acquisition' (Leow, 1993: 334).

Leow (1993) examined the effects of simplification, type of linguistic items, and L2 experience on learners' intake of linguistic items contained in written input. Learners at two levels of language experience were assigned to one of the four conditions: (a) simplified reading passage with the present perfect tense form, (b) an unsimplified reading passage with present perfect tense form, (c) a simplified reading passage with the present subjunctive form, and (d) an unsimplified reading passage with the present subjunctive form. In order to measure learners' intake, a repeated-measures analysis of variance was applied to the raw scores obtained on a task composed of a pre- and posttest. The tests were a multiple-choice recognition assessment task. For type of passage and language experience, significant main effects were found. There was a significant interaction between type of passage and task. Results demonstrated that simplification did not have a facilitating effect on learners' intake and that learners at different levels showed a different pattern of performance while internalizing written input.

In 1995, Leow replicated his study (1993) in the aural mode, focusing on modality. Statistical analyses performed on the raw scores of a pre- and posttest multiple-choice recognition assessment task showed significant main effects for type of linguistic item, language experience, and task, and a significant interaction between language experience and task. These results corroborate those found for the written mode (Leow, 1993).

2.7. Input Processing

There are studies which show the beneficial effects of grammar instruction (e.g., Briere, 1978; Chihara & Oller, 1978; Bialystok, 1979; Pica, 1983; Billmeyer, 1990; cited in Shresta, 1998; Ellis, 1990). VanPatten (1996) has pointed out that grammar instruction has a positive role in the acquisition process as instruction can make certain grammatical forms more salient in the input. According to him, grammar instruction provided through the input phase of the acquisition process can be beneficial while contrasting to Krashen's view (1982) which suggests that comprehensible and meaningful input should be free of grammar instruction and proposed a model of second language acquisition.

VanPatten's model consists of three processes:

Processes mediating:

- 1) input and intake (input processing)
- 2) intake and the developing system (incorporation of intake)
- 3) the developing system and output (accessing the linguistic system) (see figure 2.6.).

One of the processes in VanPatten's model of acquisition is called 'input processing'. VanPatten claims that learners process input as they attempt to comprehend the message contained in it and use the input to make form-meaning connections. They filter the input which is reduced and modified in a new entity called 'intake'. VanPatten defines intake as *the linguistic data actually processed from the input and held in working memory for further processing*. Some of the input is processed and becomes intake. There are factors affecting the conversion of input to intake (Richards, 2002: 41):

- a) complexity: forms should be at an appropriate level of difficulty.
- b) saliency: forms must be noticed or attended in some way.
- c) frequency: forms must be experienced with sufficient frequency.
- d) need: the form must fulfill a communicative need.

The second set of processes (II) promotes the *accommodation* of intake (how learners actually incorporate a grammatical form or structure into the mental picture of the language they are creating) (VanPatten, 2003: 15) and *restructuring* of the developing L2 linguistic system (how the incorporation of a form or structure can cause a ripple effect and make other things change without the learner ever knowing) (VanPatten, 2003: 15). The third set accounts for certain aspects of language production.

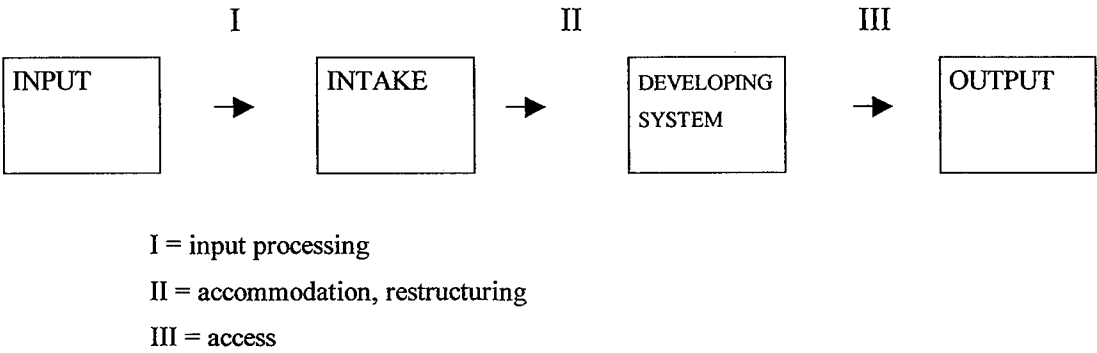


Figure 2.6. Sets of processes in SLA (VanPatten, 1996)

Input processing (IP) tries to explain how learners get form from input and how they assign grammatical roles to nouns during comprehension while their primary attention is on meaning. In VanPatten (1996), the most complete model of IP is presented. This model consists of principles that interact in complex ways in working memory. The principles are listed in Table 2.2.

The first two principles are related to the processing of morphological form as well as functors (functional categories such as *articles*, *prepositions*, etc.) in the input. The fourth principle is related to the location of the sentence. It claims that sentence initial and sentence final positions are cognitively more salient than other constituents in a sentence.

The third principle (P3) is relevant to the present study since it deals with word order. Thus, some details concerning P3 will be given below.

P3, the first noun strategy, may have significant effects on the acquisition of a language that does not follow SVO word order. We can give examples from Spanish. The first noun-phrase the learner encounters is not a subject but the learner may very well try to encode it as such:

(1) A Juan no le gusta est mucho. (OVS) (Spanish)

John- INDIRECT OBJECT does not please this class- SUBJECT very much.

John does not like this class very much.

Table 2.2. Principles of Input Processing (based on Harrington, 2002 and VanPatten, 1996))

P1. The primacy of Meaning Principle:	Learners process input for meaning before they process it for form.
P1a. The Primacy of Content Words Principle:	Learners process content words in the input before anything else.
P1b. The Lexical Preference Principle:	Learners prefer processing lexical items to grammatical items (e.g., morphology) for the same semantic information.
P1c. The Meaning-before-nonmeaning Principle:	Learners prefer processing “more meaningful” morphology before “less” or “nonmeaningful” morphology.
P2. The Availability of Resources Principle:	For learners to process form that is not meaningful, they must be able to process informational or communicative content at no (or little) cost to attention.
P3. The First Noun Principle:	Learners possess a default strategy that assigns the role of agent (or subject) to the first noun (phrase) they encounter in a sentence / utterance. This is called the first noun strategy.
P3a. The Lexical Semantics Principle:	Learners may rely on lexical semantics, where possible, instead of word order to interpret sentences.
P3b. The Event Probabilities Principle:	Learners may rely on event probabilities, where possible, instead of word order to interpret sentences.
P3c. The contextual Constraint Principle:	Learners will adopt other processing strategies for grammatical role assignment only after their developing system has incorporated other clues (e.g., case marking, acoustic stress).
P4. The Sentence Location Principle:	Learners first process elements in sentence / utterance initial position best.
P4a.	Learners process elements in final position before elements in medial position.

(2) La vi yo en la fiesta anoche. OVS (Spanish)

Her- OBJECT saw I-SUBJECT at the party last night.

I saw her at the party last night.

Research has shown that P3 describes how learners initially process the French causative. The causative generally takes the form seen in examples (3) – (4).

(3) Jean fait promener le chien a' Marie.

John makes to walk the dog to Mary.

John makes Mary walk the dog.

(4) Mes professeurs me font travailler beaucoup.

My profs me make work hard.

My profs make me work hard.

In (3), there are two verbs and two subjects /agents. The first verb *fait* with its subject/ agent *Jean*. The second verb is *promener* with its subject/agent, *Marie*, placed postverbally and marked by the preposition *a'*. The subject/agent of the second verb is problematic for learners of French. When asked “Who walks the dog?”, learners say “Jean” since he is the first noun appearing before the verb. This shows their reliance on P3.

In (4), the causative structure is different since the underlying subject of the second verb appears preverbally; not as a subject pronoun but as an object pronoun. When asked “Who works hard?”, learners will tend to say “My professors”; once again they rely on P3.

P3a provides for learners to make correct interpretations although they may not be able to parse the sentence correctly. P3a lets learners use lexical semantics and event probability to interpret sentences. Lexical semantics refers to what verbs need as agents for the action to occur (e.g., + / - animacy) while event probability refers to the likelihood of events in the real world. So, when learners hear a French causative such as *Le professeur fait faire les devoirs a' ses élèves* (The professor makes his/her students do homework), learners probably think that the students are doing homework for the professor because in the real world students do homework and not professors (VanPatten & Wong, in press).

Figure 2.7. shows a model of grammatical-semantic role assignment in second language input processing.

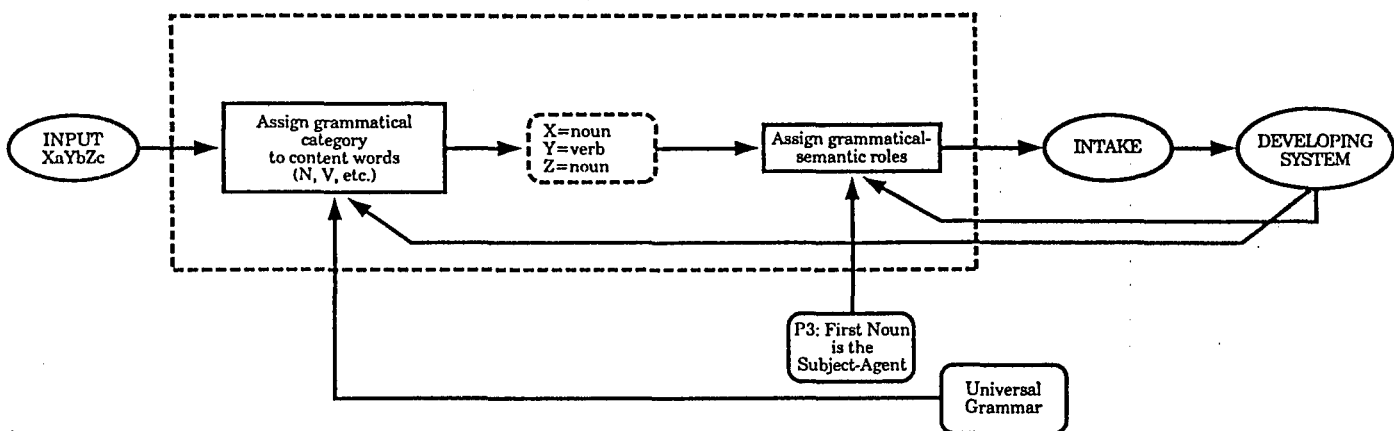


Figure 2.7. A model of grammatical-semantic role assignment in second language input processing

In input processing, converting input to intake (I) is important in terms of language learning. For VanPatten (2003), input processing consists of two sub-processes: *making form-meaning connections* and *parsing*.

Making form-meaning connections means getting the connection between, for example, -s suffix and third person singular from the input. Principles 1 (*the primacy of meaning principle*), 2 (*the availability of resources principle*), and 4 (*the sentence location principle*) guide form-meaning connections (see table 2.2.).

Parsing means ‘mapping syntactic structure onto the utterance, for example, knowing which noun is the subject and which is the object when hearing a sentence’ (VanPatten, 2003: 29). The first noun strategy and its subprinciples (*the lexical semantics principle*, *the event probabilities principle*, and *contextual constraint principle*) guide parsing (see table 2.2.).

VanPatten (ibid) gives an answer to the question whether anything facilitates how learners process input as *interaction*. During interactions, there may be *negotiation of meaning* through confirmation checks, modification of input. Interaction can be an aid to working memory.

Figure 2.8. shows a more fully revised sketch of input processing:

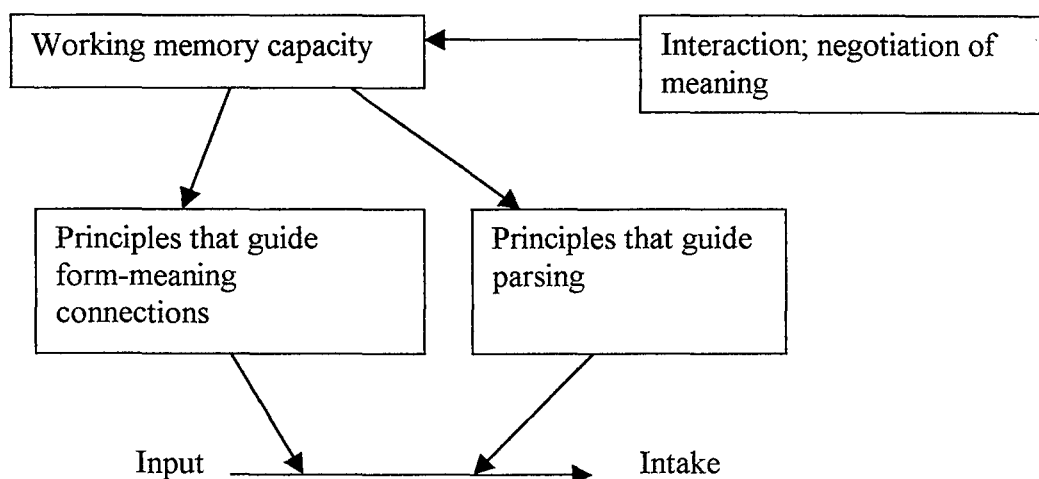


Figure 2.8. *A Detail of Process I* (Harrington, 2002, VanPatten, 2003)

2.7.1. Universal Grammar, Syntax, and Input Processing

Universal Grammar (UG) is an innate knowledge source that consists of a set of abstract principles about language (e.g. *X-bar Theory*, which says that an X0 (or a ‘head’) must project onto an X1 (the head plus its complement) and that the X1 must in turn project onto an XP (the X1 plus its specifier)- *dog (N)*, *dog on a leash (NI)*, *the dog on a leash (NP)*) as well as the information on the possible syntactic variations (parameters). A number of parameters have been discussed: the head parameter, the null-subject parameter, among others. These parameters allow certain options and children have the tacit knowledge that the language they are learning will possess one of the options determined by the parameter (VanPatten, 1996).

Principles dictate particular aspects of syntax, while parameters permit a narrow range of options for a given syntactic rule. These principles and parameters wait for the relevant linguistic data that will trigger their emergence. Figure 2.9. summarizes how UG works in first language acquisition (based on White, 1989).

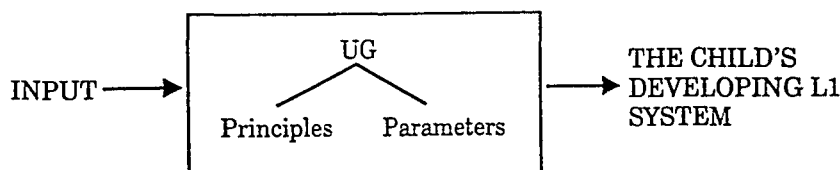


Figure 2.9. *The role of UG in first language acquisition*

The role of UG in SLA is debatable. Researchers give three possibilities for it. The first possibility is that UG is not active in SLA and that learners employ more general (still abstract) cognitive problem-solving strategies to develop a functioning second language system. The second possibility is that L2 learners have access to UG like children acquiring their native language. The third possibility is that L2 learners have access to UG but the parameters emerged for the L1 they possess may interfere with this access (e.g. Cook, 1991; Ellidokuzoğlu, 2002; Gass & Selinker, 2001, among others).

The accounts of both L1 and L2 acquisition have agreed that UG interacts with *input* data, as White suggests:

The function of the input data in language acquisition is to help to fix one of the possible settings. This is called triggering. In other words, the input helps to make the choice between various settings (White, 1989: 29).

So, the emergence of principles and parameters depends on input. It is assumed that the internal structure of every utterance is processed and is readily available to UG.

On the other hand, VanPatten (1996) points out that the availability of data in the input for the use of UG can be problematic. According to the model of input processing developed by VanPatten, input processing results in a reduced and sometimes changed subset of the input data. These data (*intake data*) are subject to

further processing (*accommodation*) that can lead to *restructuring* of the developing system. Here, the developing system utilizes intake data and not input data for growth. VanPatten (1996: 134) explains it as follows:

If UG forms part of the internal mechanisms used in restructuring of the grammar, it follows that UG must make use of intake data; that is, UG does not operate on input data for the construction of the developing system; instead, it operates on intake data.

In figure 2.10., an expanded model of SLA and the role of input processing is displayed:

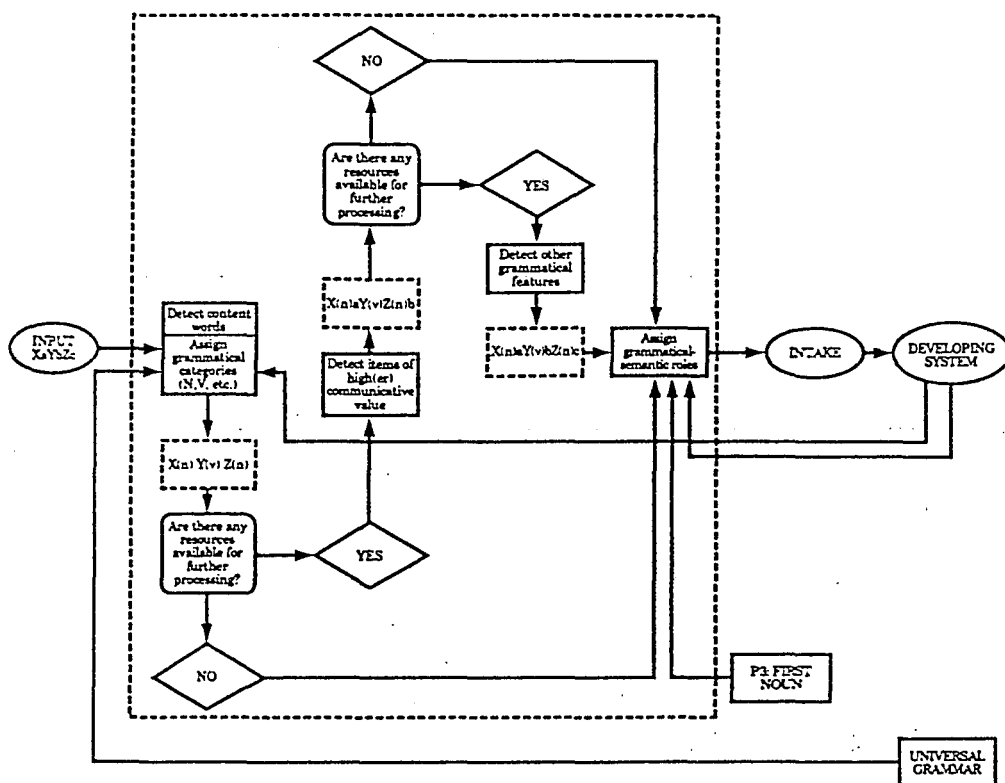


Figure 2.10. An expanded model of SLA and the role of input processing (VanPatten, 1996)

Here, *XYZ* represent content lexical items, whereas *a, b*, and *c* represent functors, morphology, and other surface grammatical features. VanPatten (1996:140-141) puts UG into his general model of SLA and use (see figure 2.10.). In the model above, UG's main role involves the second set of processes, *accommodation*, and *restructuring*. After input processing creates intake data, the intake is processed by the mechanisms which compare the data to the principles and parametric values in UG. Whether or not a hypothesis produced by UG is supported or rejected is dependent upon the intake data UG receives and not on the input that the learner hears.

2.7.2. First Language Transfer and Input Processing

First language (L1) transfer is a widely known issue in SLA (e.g. Odlin, 1989; White, 1989). What is the role of L1 in input processing? According to VanPatten (1996), the role of L1 lies in determining the initial hypotheses that a learner will have about the syntax of the L2.

For example, a speaker of English with a strict SVO word order is acquiring Spanish. The speaker's L1 (English) may generate an initial hypothesis that Spanish also has SVO word order. Input processing, relying on the first noun strategy, will take intake to the developing system in which subjects always seem to be preverbal and objects postverbal. The result will be that the initial hypothesis is confirmed. The first language as a hypothesis generating knowledge source for the developing system is shown in figure 2.11.:

The L1 does not act directly during input processing . It interacts with intake data to shape the developing system. The L1-generated hypotheses, just like the hypotheses generated by UG, interact with the intake data for confirmation or rejection (VanPatten, 1996).

2.7.3. The Competition Model and Input Processing

The Competition Model was originated from work by Bates & MacWhinney (1982, cited in Gass & Selinker, 2001). This model involves the ways monolingual

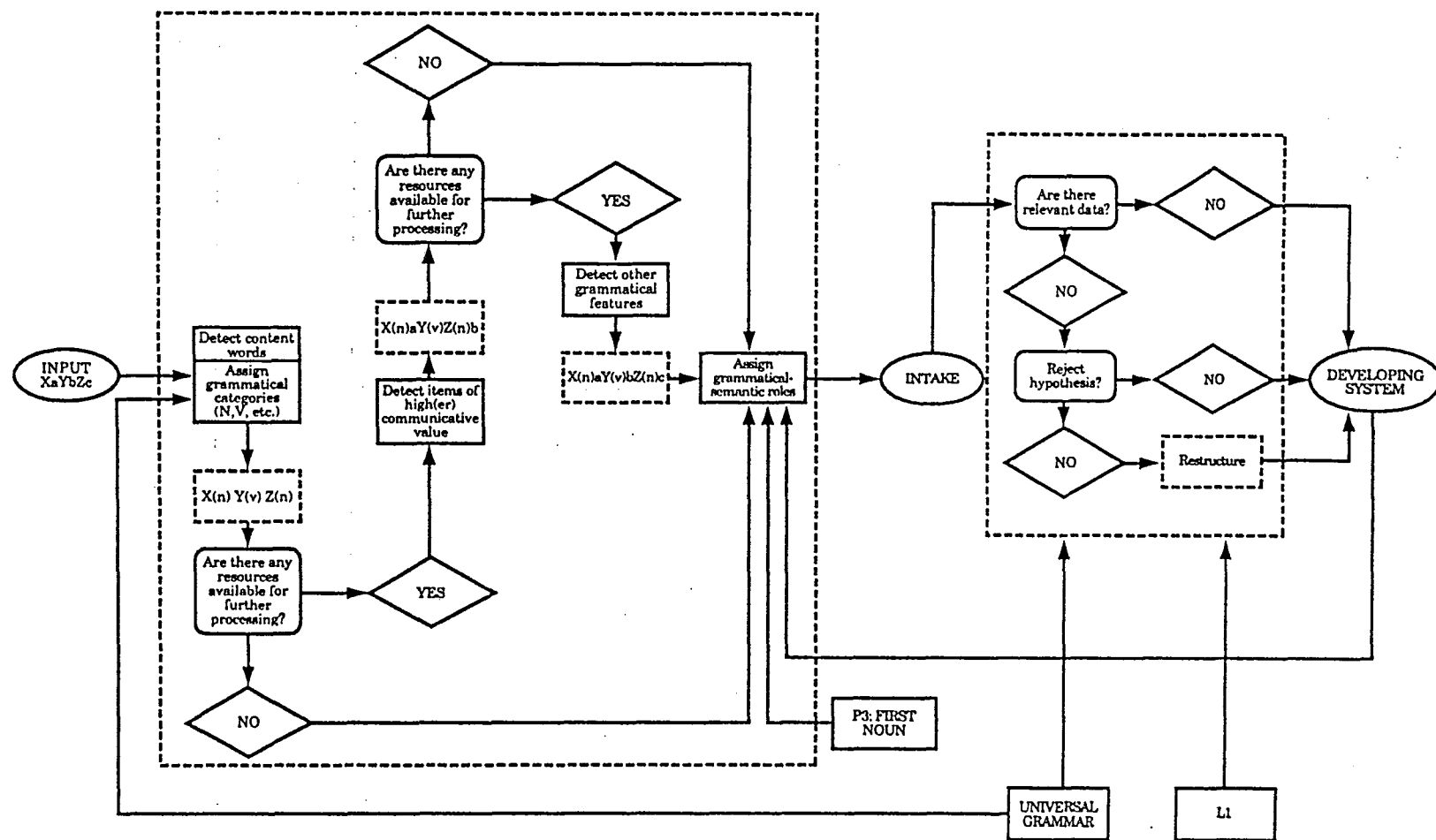


Figure 2.11. An expanded model of second language acquisition and use showing the roles of both UG and L1 (VanPatten, 1996)

speakers interpret sentences and claims that form and function cannot be separated. The principle idea of the model is that humans must develop form-function mappings for language use and that each language has 'cues' that are used during online comprehension and production. Adults utilize these cues, whereas children must learn what they are (VanPatten, 1996: 51) (see also Gass, 1989; MacWhinney, 2001; Sasaki, 1997; Su, 2001).

The part of language most investigated by the Competition Model is the subject of the sentence. What are the clues that give away the subject?

They are:

- a) word order
- b) subject verb agreement
- c) animacy (Cook, 1991)

From this brief description, it can be seen that the Competition Model seems to be complementary and useful for understanding how P3 (b) (*The Event Probabilities Principle*) develops, but it does not say anything about how learners first detect and process grammatical form in the input (VanPatten, 1996).

2.8. Processing Instruction

VanPatten (1996) has developed a new approach to grammar instruction called 'processing instruction'. It aims to improve the quality of the input received by learners so that the amount of input becoming intake will increase. This is done by giving learners the opportunity to process grammatical forms in the input and make form-meaning connections (see a sample presentation in Appendix B). Processing instruction aims to make the learner get the communicative function of a particular form and enrich the learner's intake.

Processing instruction (PI) is a type of grammar instruction with three basic characteristics:

1. Learners are given information about a linguistic structure or form.

2. Learners are informed about a particular IP strategy that may negatively affect their picking up of the form / structure during comprehension.
3. Learners are pushed to process the form/structure during activities with structured input – input that is manipulated in particular ways so that learners become dependent on form and structure to get meaning and /or to privilege the form/ structure in the input so that learners have a better chance of attending to it (i.e., learners are pulled away from their natural processing tendencies toward more optimal tendencies) (VanPatten & Wong, in press).

In order to see the connection between input processing and instruction, we should illustrate the *traditional grammar instruction* in foreign language teaching. While figure 2.12. shows the stages of the traditional grammar instruction, figure 2.13. shows the processing instruction.

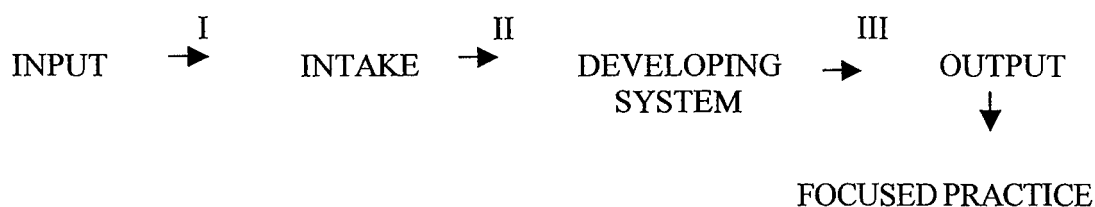


Figure 2.12. *Traditional Grammar Instruction in Foreign Language Teaching* (VanPatten & Cadierno, 1993)

Traditional grammar instruction involves explanation and output practice of a grammatical point and focuses on the manipulation of learner output to affect change in the developing system.

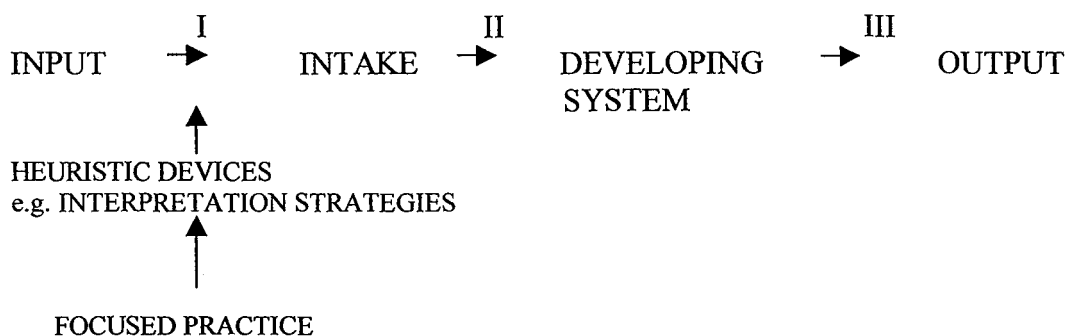


Figure 2.13. *Processing Instruction in Foreign Language Teaching* (VanPatten & Cadierno, 1993)

As can be seen in figure 2.13., processing instruction attempts to change the strategies and mechanisms used by language learners when processing L2 input, whereas traditional instruction involves presenting learners with explanations regarding the form and then giving them practice in how to make sentences with the relevant grammar point.

2.8.1. Structured Input Activities

The input used in processing instruction is called ‘structured input’. The term ‘input’ is used since learners actively focus on processing input instead of producing language. The term ‘structured’ is used since the input is not spontaneous. Instead, it is purposefully ‘prepared’ and ‘manipulated’ to highlight certain grammatical features based on the processing strategies mentioned previously (VanPatten, 1993: 438) (4).

VanPatten (1993: 438-439) bases the structured input on the following pedagogical guidelines:

1. *Teach only one thing at a time.*
2. *Keep meaning in focus.* Students must comprehend language in order to successfully complete the activity.
3. *Learners must “do something” with the input.* (e.g. select a picture, check boxes, complete a survey, indicate true-false, provide one word responses, provide an answer from a list of alternatives, offer someone’s name who fits the description, and so on)
4. *Use both oral and written input.* Some learners benefit more from aural input while others benefit more from written input.
5. *Move from sentences to connected discourse.* Early activities should focus on isolated sentences. Connected discourse should appear later in the sequence.
6. *Keep the psycholinguistic processing mechanisms in mind.* In this way, learners’ attention during processing is directed toward the relevant grammatical items.

In structured input activities, learners are asked to listen to or read texts consisting of discrete sentences or continuous discourse and to indicate their understanding of them, for example, carrying out a command, drawing a picture, ticking a box, or indicating agreement or disagreement. The learners' responses to the input stimuli are nonverbal or minimally verbal; they do not produce the structure (Ellis, 1998: 44). This is similar to Krashen's (1982) *silent period* (see also section 2.2.).

The psycholinguistic rationale for the structured input activities is that acquisition occurs when learners attend to the new structure in input rather than when they attempt to produce it. VanPatten (1993) distinguishes between *referential* and *affective* activities. The former requires an objective interpretation of sentences, whereas the latter asks for a more personalized response.

For VanPatten (1993: 439), it is useful to begin with referential activities. These activities allow for teachers to understand whether or not students are actually focusing on the relevant grammatical items in the input before being led into affective activities (see section 3.4.2.1.).

Ellis (1995) suggested *interpretation tasks* as an alternative approach to traditional instruction. He identified a set of processes- *interpretation* involving noticing and cognitive comparison (noticing the gap) and resulting in intake, *integration* occurring when learners are able to incorporate intake into their developing interlanguage systems, and *production* relying on implicit knowledge and supplemented by explicit knowledge through monitoring. VanPatten (1993) called the tasks *structured input activities* and identified a very similar set of processes. He referred to them as *input processing*, *accommodation and restructuring*, and *access*. The principles for the design of *interpretation tasks* seem to be similar to those for the design of *structured input activities*. The terms used by Ellis and VanPatten are different but they refer to the similar things. Ellis also accepts this kind similarity between VanPatten's PI principles and his own principles in Ellis (2002).

2.8.2. Processing Instruction vs. Comprehension-based Second Language Instruction

In this section, three explicit comparisons will be made: one with general comprehension-based approaches; a second with Sharwood Smith's 'input enhancement', and a third with Rutherford's 'consciousness-raising'.

2.8.2.1. Processing Instruction vs. Comprehension-based Approaches

The term 'comprehension-based' refers to the providing of comprehensible input by teachers and materials during the classroom acquisition. The L2 is used as much as possible and modified for comprehensibility by teachers. Learners are encouraged to talk in the L2 only when they are ready.

Krashen (1982:160-161) summarizes the underlying position of most comprehension-based approaches:

Quite simply, the role of the second or foreign language classroom is to bring a student to a point where he can begin to use the outside world for further second language acquisition.(.....) this means we have to provide students with enough comprehensible input to bring their second language competence to the point where they can begin to understand language learned "on the outside," read, and participate in conversations. Since they will be less than fully competent, we also need to provide them with tools for encouraging and regulating input.

Comprehension-based approaches to instruction may differ in the way in which teachers provide comprehensible input to classroom learners and in the quality of the input. *Total Physical Response (TPR)* has heavy use of commands as teachers order students to perform actions. *The Natural Approach* uses some TPR techniques but also allows teacher-talk. Teachers use visuals and objects when teaching an oral text, involving students in the co-construction of the discourse with simple answers. *Content-based instruction* is often comprehension-based, especially with low-level learners. Teachers teach about subject matter (history, science, etc.) using only the L2. They modify the speech of their lectures and discussions to make the language comprehensible to their students. Since the focus

is on content, teachers make use of slides, pictures, graphs, objects, and other visual aids that help learners in comprehending the language (VanPatten, 1996).

What is common to all these approaches is that there is input and that as long as the affective filter is low, comprehensible input causes acquisition (Krashen, 1982). Teachers pay little or no attention to the formal elements of the language during class time or in the evaluation of student performance. As for testing, content-based teachers test for content; Natural Approach teachers test for vocabulary, comprehension, and for the expression of meaning (For further information, see Richards & Rodgers, 1986).

VanPatten (1996) claims that PI is not equivalent to comprehension-based approaches even though it is input-based. PI aims to get learners to process more form in the input or to process it correctly.

A second point is that PI is guided by the insights from theory and research on input processing and attempts to affect input processing itself. Comprehension-based instruction does not make such an attempt. It aims to provide learners with comprehensible input; it does not consider what learners do to the input when they comprehend it. PI actively attempts to affect intake derivation, whereas comprehension-based approaches ignore the psycholinguistics of intake derivation.

In short, PI is not another type of comprehension-based approach to language instruction. 'PI is a specific approach to explicit grammar instruction and thus falls more clearly within the category of instructional treatments called "focus on form" (VanPatten, 1996: 83-84).

2.8.2.2. Processing Instruction vs. Input Enhancement

Sharwood Smith (1993) uses the term "input enhancement" in order to discuss focus on form. Input enhancement is any external attempt (by teachers or through materials) to make the input more salient to learners and can come in many forms. He discusses both positive and negative enhancement (Sharwood Smith, 1993: 177). Positive enhancement can be color coding or boldfacing forms in reading texts. Negative enhancement involves informing learners that a given form is incorrect by pointing out an error or making a funny face.

PI seems to have similarities with Sharwood Smith's input enhancement but there are differences between PI and input enhancement. Sharwood Smith's concern is to make forms salient; that is, to bring them to learners' attention in some way. PI does this but also tries to provide opportunities for form-meaning mappings in activities. One may not guarantee the getting the form processed correctly, just bringing a form to someone's attention.

Besides, PI does not have any claims about providing negative enhancement regarding learners' errors. Although PI involves erroneous input processing and attempts to alter erroneous input, it does not focus on the role of output errors in L2 development (VanPatten, 1996).

2.8.2.3. Processing Instruction vs. Consciousness- Raising

Rutherford (1987) discusses "grammatical consciousness-raising", which is any 'deliberate attempt to draw the learner's attention specifically to the formal properties of the target language' (Rutherford & Sharwood Smith, 1988: 107). Rutherford says that language acquisition can be assisted by such consciousness-raising (C-R), but that the actual form of C-R may differ depending on first-second language contrasts and the nature of the grammatical item or structure.

For Rutherford, C-R cannot be equated with traditional grammar instruction. C-R helps the processes that underline acquisition of grammar and does not aim to contain the knowledge (or product) that must eventually be acquired (Rutherford, 1987: 24).

VanPatten (1996: 85) states the following about PI and C-R:

In a real sense, processing instruction is a type of consciousness raising, although the term "consciousness" is somewhat unfortunate. Since processing instruction attempts to influence the processes involved in the derivation of intake, it is not a product-oriented approach to grammar teaching that Rutherford appears to critique. That is, processing instruction does not seek to "pour knowledge" of any kind into learners' heads; it assists certain processes that can aid the growth of the developing system over time. For this reason, we conclude that Rutherford would not have much problem in considering processing instruction as one manifestation of grammatical consciousness-raising.

He repeats that the term consciousness is “unfortunate” and adds that he prefers thinking of his approach to instruction as enriching learners’ subconscious intake but as not raising their consciousness about grammatical form.

As seen in the above sections, although PI seems to be similar to comprehension-based instruction, input enhancement, and consciousness-raising, it differs from those approaches in some ways:

- Comprehension-based instruction aims to provide learners with comprehensible input without considering what learners do to the input when they comprehend it. It ignores the psycholinguistics of intake derivation.
- The aim of input enhancement is bringing a form to somebody’s attention, but not getting the form processed correctly or providing opportunities for form-meaning connections.
- Consciousness-raising aims to raise learners’ consciousness about grammatical form, while PI aims to enrich their subconscious intake.

For some grammatical forms, L2 learners have problematic processing strategies depending on, for example, word order. If we make learners notice their false processing strategies and provide opportunities for form-meaning connections, they can alter their strategies just between input and intake before producing grammatical forms.

In comprehension-based instruction, input enhancement, and consciousness-raising, grammatical forms will be made salient without referring to false strategies and having learners make form-meaning connections. This will not provide learners with opportunities to change their problematic processing strategies about some grammatical forms in the target language.

‘PI determines not just what is a problem form or structure but why it is a problem visa-vis one way of learning mechanisms involved in SLA. No other instructional treatment does this’ (VanPatten, 2002a: 767-768).

2.8.3. Research on Processing Instruction

The PI studies examined here primarily involve comparisons of PI and TI. Most of these studies make use of the comprehension and production tasks. The

studies are different in terms of the kind of production tasks administered and whether explicit instruction accompanied the structured input (Ellis, 1999). Van Patten and his colleagues examined the grammatical structures in Spanish . The other PI studies were conducted for the grammatical structures in different languages: Italian, Japanese, English, and French (see table 2.3.).

In their notable study, VanPatten and Cadierno (1993) attempted to change the learners’ reliance upon the first-noun strategy when processing input containing *Spanish clitic object pronouns*. Spanish has flexible word order allowing a number of surface structure possibilities: SVO, SOV, OVS, and OV. With *clitic object pronouns*, word order is flexible. The subject may be placed before or after the verb, depending on features of syntax, discourse, style, and pragmatics. For example, both of the following sentences mean ‘*The man follows her.*’:

- (i)

El
The

senor
man-SUBJECT

la
her-OBJECT

sigue.
follows.
- (ii)

La
Her-OBJECT

sigue
follows

el
the

senor.
man-SUBJECT.

The word order for the second sentence is the opposite of that expected by English speakers. By using the first-noun strategy, they may think that the first noun or pronoun is the subject of the sentence. Therefore, they can interpret the direct object as the subject and think the sentence means ‘*She follows the man.*’.

The VanPatten and Cadierno (1993) study has limitation in the kind of test used to measure production; it did not measure the communicative behavior (Ellis, 1999). Therefore, the study did not show that the PI was effective in promoting interlanguage development. In order to measure the communicative behavior, VanPatten and Sanz (1995, cited in VanPatten, 1996) compared the PI group with a control group. They administered an interpretation task, a sentence-level task, a structured question-answer task, and a video narration task. The PI group significantly improved on the interpretation task, while the control group did not. The PI group significantly improved their accuracy in producing the target structure on all the written tasks, but the control group did not improve. The PI group also improved on one of the oral tests- sentence-completion. This task was item-based;

the subjects might have been able to use explicit knowledge (Ellis, 1999). On the oral video narration task, there was no significant difference between the PI and control groups. Thus, 'the study does not provide evidence that processing instruction led to changes in implicit knowledge' (Ibid, 1999: 72).

In both the VanPatten and Cadierno and VanPatten and Sanz studies, the PI consisted of explicit explanation and processing practice. In order to investigate the question whether the advantage found for the PI groups in these studies was owing to the explicit explanation, the processing practice, or a combination of the two, VanPatten and Oikkenon (1996) conducted a study on object pronouns in Spanish. There were three groups: explicit information only group, structured input activities only group, and the grammatical explanation with processing practice (PI) group. On the interpretation task, PI and structured input only groups made significant gains, whereas the explicit explanation only group did not. On the production task, all groups gained from pre- to posttest. The gains made by the structured input only group and PI group were greater than those made by the explicit explanation only group. VanPatten and Oikkenon concluded that improvement on the interpretation task was owing to the structured input activities and even on the production task, 'the effects of explicit information are negligible' (1996: 508). However, as has been stated above, the tasks used in this study failed to measure the communicative behavior (Ellis, 1999).

Following VanPatten & Cadierno (1993), several PI studies have been conducted in order to compare the relative effects of mostly PI and TI (e.g. Cadierno, 1995; Cheng, 1995; DeKeyser & Sokalski, 1996; Tanaka, 1996; Salaberry, 1997, cited in Allen, 2000; Collentine, 1998; Nagata, 1998; Allen, 2000; Benati, 2001; Cantürk, 2001; Farley, 2001; and VanPatten & Wong, in press). These studies except DeKeyser & Sokalski, Salaberry, Collentine, Allen, Cantürk found similar results to the original VanPatten & Cadierno (1993) study. DeKeyser & Sokalski (1996), Salaberry (1997, cited in Allen, 2000), Collentine (1998), Allen (2000), and Cantürk (2001) found no significant differences between PI and TI groups on either the comprehension or the production tasks.

DeKeyser & Sokalski (1996), Salaberry (1997), Allen (2000) were concerned with some internal validity in the studies carried out by VanPatten and colleagues

(e.g. Cadierno, Oikkenon). Both DeKeyser & Sokalski (1996) and Salaberry (1997) attempted to replicate the VanPatten & Cadierno (1993) study and identified two main problems of internal validity: (a) different type and amount of explicit grammar instruction provided to the two instructional groups; (b) difference in the type of practice.

DeKeyser & Sokalski (1996) and Salaberry (1997) studies had some weaknesses. Their sample sizes were small compared to the other studies. They did not use the same instructor in all the experimental groups. Moreover, DeKeyser and Sokalski's subjects seemed more proficient regarding the target structures than the subjects in the other studies. Their input group got 75 % on the comprehension task of the pretest for the conditional in Spanish. This left little room for improvement. DeKeyser & Sokalski's study allowed the subjects to keep and refer to explanations of the target structures throughout the instruction. Salaberry used a written comprehension task whereas VanPatten and Tanaka used an aural comprehension task (Ellis, 1999: 73). Despite the validity of their objection, the results of these studies have been criticized by Allen (2000: 72), since they did not operationalize processing instruction as has been defined by VanPatten. Neither of the processing instruction groups in these studies received processing instruction as has been described by VanPatten.

Allen (2000) tried to replicate the VanPatten & Cadierno (1993b) study conceptually as suggested by Polio & Gass (1997). She investigated the relative effect of processing instruction and traditional instruction on the acquisition of the French causative, a suitable structure for the first-noun strategy. She found that PI was as effective as TI enabling learners to interpret the French causative and that traditional instruction is more effective in enabling learners to produce the French causative.

VanPatten & Wong (in press) replicated Allen's study and found different results from her study but similar results to the original VanPatten & Cadierno study (1993). That is, on the interpretation task, PI group was superior to TI group, which was superior to the control group. On the production task, there was no significant difference between PI and TI groups. Both groups were superior to the control group. The gains did not hold over time.

Collentine (1998) found that PI and TI were equally effective in tasks involving the Spanish subjunctive. However, Collentine did not follow the guideline in designing PI materials ‘keep the learner’s processing strategies in mind.’ In the instructional materials, subjunctive forms were left in utterance-medial position, where they are least likely to be processed. Some of the referential activities in the PI treatment involved the processing of connected discourse rather than isolated sentences. These activities might have been too complex for the learners to get a real benefit from them (Farley, 2001).

Cantürk (2001) found no significant difference between PI and TI groups on interpretation and production tasks. As for the retention of the proficiency gains, both PI and TI’s gains were retained over time on the interpretation task and only PI’s gains were retained over time on the production task, whereas TI’s gains faded over time. This is the only study, available to the author, which measured the retention of the proficiency gains eight months after the administration of the immediate posttest. This shows that PI’s positive effects are durable on both interpretation and production tasks, while TI’s positive effects are durable on the interpretation task. Finding no significant difference between two instruction groups might have had to do with the practice activities used in the study. She used totally different activities for PI and TI. In the PI treatment, she did not use structured input activities. Instead, she used interpretation tasks, which are similar to structured ones, but not identical. She gave the same explicit information to the two groups, but she did not mention the processing strategy to the PI group. Another factor which may have affected the results is that she did not include a true control group in her design. This means that she was not able to test the factors such as maturation, practice on tests, and so on.

2.8.3.1. Summary and conclusions

Table 2.3. shows the summary of fifteen studies on PI:

Table 2.3. Studies on Processing Instruction

Study	Processing Strategy	Treatment Groups	Assessment Tasks	Target	Outcome
VanPatten&Cadierno, 1993	P3 First Noun Strategy	PI (n=27), TI (n=26), Control (n=27)	Interpretation & production tasks and a distracter task	Object Pronouns and word order in Spanish	On the interpretation task, PI made significant gains, whereas TI & Control groups did not. On the production task, PI & TI groups showed gains, whereas the Control group did not.
Cadierno, 1995	P1 (b) Lexical Strategy	PI (n=22), TI (n=19), Control (n=20)	Interpretation task + distracter items & Production task + distracter items	The Spanish Past Tense	PI group made gains in both the ability to assign tense to input sentences when adverbials are absent and in the ability to produce past tense forms. TI group made gains only in the production of past tense forms in Spanish.
VanPatten & Sanz, 1995	Not P Strategy, but focus on communicative output	PI (n=27), Control (n=17)	An interpretation task & 3 production tasks: a sentence-level task, a structured question-answer task, & a video narration task	Sentence- level versus discourse-level tasks Object pronouns in Spanish	On the interpretation task, PI group made significant gains, whereas the control group did not. The PI group improved significantly on all three production tasks, while the control group did not. The greatest gains were in the sentence-level and video-narration tasks. PI group performed better in the written mode than the oral mode on the sentence-level completion task and video-narration task, but no difference was found for mode on the question-answer task.
Cheng, 1995	Not P Strategy, lexical-aspectual items	PI (n=36), TI (n=36), Control (n=33)	An interpretation task, a written sentence-level production task, & a guided composition task	Ser and estar in Spanish	On the interpretation task, both PI and TI groups made significant gains. PI group gained more in the first posttest, but this group's score dropped to about the same level as the TI group's in the second posttest. On the sentence production task, both PI & TI groups improved significantly and retained this performance across the two posttests. For the composition task, both PI & TI improved significantly; their performance stayed about the same across the two posttests.
DeKeyser & Sokalski, 1996	Not P Strategy; Skill Acquisition Theory	Input (n=15 + 19), Output (n=10+16),& Control (n=11+11)	A comprehension task & a production task	Direct object clitics & Conditional in Spanish	For object clitics, input practice was better for comprehension skills, and output practice for production skills. For the conditional, the output group outperformed the input group, but these differences faded in the long term.
Tanaka, 1996	Not mentioned	Total= 123 Input Processing & Production group	An aural comprehension task & a written production task	English relative clauses	On the comprehension task, the input processing outperformed the production group and the input processing group's performance was durable. On the production task, both groups showed significant gains. The input processing group's performance was durable, while the production group's scores dropped on the delayed posttest.

Table 2.3. Studies on Processing Instruction (Continued)

Study	Processing Strategy	Treatment Groups	Assessment Tasks	Target	Outcome
VanPatten & Oikkenon, 1996	Not P Strategy; focus on monitoring	Explicit information only (n=22), Structured Input Activities only (n=20), & PI (n=17)	An interpretation task & a production task	Explanation versus structured input versus both Object pronouns in Spanish	On the interpretation task, PI & structured input only groups made significant gains, while the explicit only group did not. On the production task, all groups gained from pre- to posttest. The gains made by the structured input only group and PI group were greater than those made by the explicit only group.
Salaberry, 1997	P3 First Noun Strategy	Total= 33 Input Processing, Output Processing, & Control	A written comprehension task, two production tasks (translation & narrative)	Object pronouns in Spanish	Both input and production groups improved on the comprehension and production tasks with no difference between them.
Collentine, 1998	Not mentioned	PI (n=18), output-oriented (n=18), & Control (n=18)	An interpretation task, a production task, & a distracter activity (open-ended written questions)	The subjunctive in Spanish	Both input and output groups performed the same on both measures of comprehension and production for the subjunctive in Spanish.
Nagata, 1998	Not mentioned	Input (n=7) & Output (n=7)	Comprehension tasks & production tasks	Japanese honorifics (i.e. respectful and humble words)	The output group performed significantly better than the input group for the production of Japanese honorifics and equally well for the comprehension of these structures.
Allen, 2000	P3 First Noun Strategy	PI (n=64), TI (n=61), & Control (n=54)	An interpretation task, a distracter task, & a production task	The French causative <i>faire</i>	PI was as effective as TI on the interpretation task and TI was more effective on the production task.
Benati, 2001	P1 (b) Lexical Strategy	PI, Output-based, & Control (Total n=39)	An interpretation task & two production tasks: written completion & oral limited response tasks	The Italian future tense	On the interpretation task, PI group improved significantly, TI & Control groups did not. On the two production tasks, PI & TI groups both improved with no difference between them; the control group did not improve.
Cantürk, 2001	Not mentioned	Interpretation Task Group (n=40) & TI (n=40)	An interpretation task, a distracter task on the Passive, & a production task	Noun Clauses in English	Both PI & TI groups improved on the interpretation task as well as on the production task. There was no difference between the two groups for comprehension follow-up scores. For production task, PI group's proficiency gains were maintained over time, whereas TI group's did not.
Farley, 2001	P1 (a & b) Lexical Strategy	PI(n=17) & MOI (n=12)	An interpretation task & a production task	The Spanish subjunctive	PI had overall greater effect than MOI on both interpretation and production of the Spanish subjunctive of doubt.
VanPatten & Wong (in press)	P3 First Noun Strategy	PI (n=29), TI (n=20), & Control (n=28)	An interpretation task & a production task	The French Causative <i>faire</i>	On the interpretation task, PI group was superior to TI group, which was superior to the control group. On the production task, there was no significant difference between PI and TI groups. Both groups were superior to the control group. The gains did not hold over time.

We may draw the following conclusions about the effects of PI:

1. All the studies provide evidence that explicit information and processing activities leads to gains in the ability to interpret the target structures.
2. All of the studies, except for Salaberry (1997), provide evidence that PI works better than TI in this respect. DeKeyser & Sokalski (1996) found this was true for only one of the structures they investigated.
3. All the studies, except for DeKeyser & Sokalski (1996) and Salaberry (1997), indicate that PI and explicit information leads to significant gains in tests which measure the controlled production of the target structures.
4. No study found that PI led to better performance on controlled production tasks than TI.
5. The effects of PI on both comprehension and production are durable. However, DeKeyser & Sokalski (1996) and Tanaka (1996) show that the gains from production practice can disappear over time.
6. It is difficult to judge whether processing without explicit information is as effective as processing with explicit information. There is only one study , available to the author, about that. VanPatten & Oikkenon (1996) investigated this issue and found that the gains are due to the structured input activities. As pointed out by VanPatten (1996:126), structured input activities and the form-meaning connections being made during processing are responsible for the relative effects observed.
7. The studies mentioned here used the different target structures from different languages. Most of them found that PI has positive effects in the ability of interpreting and producing the target structures. This may lead us to a conclusion that to some extent, PI can be generalized to different structures in different languages.
8. Only one study (Farley, 2001) compared PI with the meaning-based output instruction (MOI). He found that PI had overall greater effect than MOI. More studies can be conducted on this issue.

In conclusion, PI promotes **intake**, but it is too early to claim that it promotes **acquisition** (i.e. interlanguage development). We do not have evidence that learners can use the target structures in communicative language use (Ellis, 1999: 74).

Even though DeKeyser et al (2002) questioned the explanatory adequacy of the model of IP, the validity of the limited-capacity, single-resource model of attention, the research on PI showed that PI can be a good alternative to grammar instruction (For VanPatten's response to DeKeyser et al. (2002), see VanPatten, 2002b). Due to the fact that our language classrooms are communicative and input-rich, we should change our old-fashioned traditional approaches into a novel approach such as PI.

3. METHODOLOGY

The present study is an attempt to investigate the possible effects of two different types of grammar instruction: *processing* and *traditional*. The study compares traditional instruction with processing instruction in which *structured input activities* (see section 2.8.1.) are used.

As has been previously mentioned, the study seeks answers to the question whether there will be some statistical differences among the students who receive processing instruction, those who receive traditional instruction, and those who receive no instruction on English causatives in terms of the following:

- a) the interpretation of English causatives;
- b) the production of English causatives;
- c) the long term retention of the possible positive effects of the instruction on the interpretation task; and
- d) the long term retention of the possible positive effects of the instruction on the production task.

The study employs an experimental design and offers statistical analyses.

3.1. Definitions of the Structures Used in the Study

A *causative* structure / verb has two events: the causing event and the caused event (result). 'Causative event structures are expressed cross-linguistically, or even in the same language, through the use of different devices' (Montrul, 2001: 55, among others).

There are two kinds of causative in English. One type is called *lexical causatives*, which have no visible decomposable form. For example, even though the verb *kill* is not formed through an overt derivational process, it describes a complex event or two components of events, one of which is the *cause* event and

the other the resulting state or change of state [(become) (CAUSE someone (TO DIE)].

English also has *periphrastic* verbs, such as *make*, *have*, and *get*, which have independent lexical forms and subcategorize for another clause (Baker, 1988; Guasti, 1993; cited in Montrul, 2001).

In periphrastic causatives, the subject of the caused event becomes the object of the causative verb, regardless of whether the caused event is transitive or intransitive.

1) *Jack cleaned up the room.*

2) *Jack made/had/got/ (caused) Anne (to) clean up the room.*

In (2), *Jack* is the *causal agent*, *Anne* is the *causee*, and *have*, *make*, *get* (to) are the *causal morphemes*. There are often nuances in the degree of control of the causal agent over the activity of the causee.

3) *Jack made Anne clean up the room.* (Anne had no choice. Jack insisted that she clean up the room.)

4) *Jack had Anne clean up the room.* (Anne cleaned up the room because Jack asked her to.)

5) *Jack got Anne to clean up the room.* (Jack managed to persuade Anne to clean up the room.) (Azar, 1999: 339)

Unlike periphrastic causatives, lexical causatives are not productive and are expressed by state verbs.

For example,

6) *The wind opened the door.*

In the present study, the problematic structures are periphrastic causatives *have*, *make*, and *get*. The reason why we had chosen causatives in English as target structures was that they were *the most appropriate* structures to analyze *the first noun strategy*. The Passive voice could have been selected as target structures for this study, but the passive voice is more *salient* to Turkish learners of English than causative constructions. That is, we can find the passive voice in almost every grammar book, so learners are familiar with those structures. However,

English causatives are not found in grammar books in detail. Moreover, the pilot test (see section 3.2.) showed that periphrastic causatives *have*, *make*, and *get* were problematic for Turkish learners of English and they used the first noun strategy. An analysis of passive causatives *have* and *get* (e.g. *I had/got my car serviced.*) is beyond the scope of the present study.

3.2. The Pilot Test

When we administered a test on English causatives to Turkish learners of English at intermediate language level, we found that English causatives may pose problems for Turkish learners of English. In order to see whether or not English causative verbs *make*, *have*, and *get* are really a problem for Turkish learner, a test was administered to 43 intermediate students studying at the School of Foreign Languages at Eskişehir Anadolu University, Turkey at the end of the 2000-2001 Spring Term. The test was developed by the researcher. It consisted of three parts: an interpretation task, a distraction task, and two production tasks (see Appendix A, pp. 108-110).

As the interpretation task, a listening-based, three-option task was constructed. The students listened to the ten sentences including causative *make*, *have*, *get* and selected the meaning of each sentence. The distribution of the causatives was as follows:

make someone do something: 2 items

have someone do something: 2 items

get someone to do something: 2 items

have something done: 2 items

get something done: 2 items

The sentences were read by the researcher only once in order to measure real-time comprehension.

In the distraction task, the students were asked to complete the five blanks with an appropriate tense (Past Simple or Past Continuous). This task was developed to minimize the influence of the interpretation task on the production task.

The production task consisted of two parts: (a) an open-ended activity in which the students were asked to write five complete sentences in English about what teachers should or should not have or make them do; (b) a controlled writing activity in which the students were asked to write five complete sentences in English based on the pictures and prompts given. The open-ended activity was composed of *make / have someone do something, get someone to do something* structures, whereas the controlled writing activity was about *passive causative: have something done*.

The interpretation task was worth 10 points. One point was assigned for each correct response; incorrect responses received a score of zero. The five distracter responses were ignored in the scoring procedure. The production tasks were worth a total of 20 points; 2 points for each of the ten sentences the students wrote. One point in each sentence was assigned for each of the two criteria: (a) correct infinitive form of verb; (b) inclusion and correct position of objects.

At the time of the administration of the test, these students were having intensive English instruction and had studied causative constructions before. The test was administered within 20 minutes and the students' questions about vocabulary were answered by the researcher.

The results showed that causative verbs *have, make, get* and passive causatives *have, get* were still problematic for intermediate students even though they had already studied these structures. The success in the listening interpretation task was 62,5 % while the success in the open-ended writing activity was 17,6 % and the success in the controlled writing activity was 22,5 %. The total success in the interpretation task was 62,5 %, while the total success in the production tasks was 20,5 % (see table 3.1.).

Table 3.1. Results of the Pilot Test

Tasks	Interpretation Task	Production Tasks	
	Listening interpretation	Open-ended	Controlled
Success	62,5 %	17,6 %	22,5 %
Total Success	62,5 %	20,5 %	

The rate of success in the interpretation task may seem to be a good result when compared with the rate of success in the production task, but this kind of result may have occurred due to the 'event probabilities'; that is, the students decided on the doer according to the event probabilities. In addition, the students may have used test-taking strategies since all the sentences were in the causative constructions.

These students were following *Grammarway* series based on traditional grammar instruction. The results showed that for these students producing causatives was more difficult than interpreting them.

It was found that the first noun strategy was used by these students in the interpretation task.

For example, they heard the following:

My teacher made me rewrite the report.

And they chose the first noun as the doer:

- My teacher wrote the report again.
- I didn't write the report again.

Another example can be given from passive causatives:

They heard the following sentence:

My father had the house painted last week.

And they chose the first noun as the doer:

- My father painted the house himself.
- My father didn't find someone to paint the house.

It was also found that the students used verbs erroneously in the open-ended writing activity:

- * They should have students done their homework.
- * They should make the students been silent.
- * The teacher should have students to study hard.
- * Teachers should make students exercised.
- * Teachers should get students talk.
- * Teachers should get students sing.
- * The teacher should not have students to smoke.
- * The teacher shouldn't have students to eat something in the class.

In this activity, the students made sentences containing noncausative *make*:

- Teacher shouldn't make a noise in a classroom.
- Teachers should make lessons more enjoyable.

In the controlled writing task, the students used passive instead of passive causative *have*:

- *The shed had been fixed* instead of *They have had the shed fixed*.
- *A pond had been made* instead of *They have had a pond made*.

The students changed the word order and wrote sentences in the Present Perfect:

- They have fixed the shed.
- They have made a pond.

The students made errors in choosing the right form of the verb:

- * They have had the shed fix.
- * They have had a pond make.
- * They have had a path lay.

3.3. The Present Study

3.3.1. Subjects

The subjects were Turkish students of English attending preparatory program at the School of Foreign Languages at Eskişehir Anadolu University, Turkey in the Fall Term of the 2002-2003 academic year. Their language level was determined by *the Michigan Placement Test*. The evaluation scale for this test was as follows:

Table 3.2. The Evaluation Scale for the Michigan Placement Test

76-100	Advanced
61-75	Upper-Intermediate
46-60	Intermediate
31-45	Lower- Intermediate
16-30	Elementary
0-15	Beginner

Following Norris & Ortega's (2000) suggestion of true control groups in experimental and quasi-experimental study designs, a control group was added to the research design.

Norris & Ortega (2000: 490) state that:

Without control conditions, where in participants receive no treatment of any sort on the target structures, interpretations about overall change attributable to a given instructional treatment are not warranted, since there is no way of observing how much of this change may have occurred because of other factors, such as maturation, practice on the pretest, etc.

As Norris & Ortega stated above, the function of *a true control group* is to understand whether the possible gains in the PI and TI groups' scores after instruction occurred because of only the treatment or the other factors such as maturation due to exposure to English in the two treatment groups' regular classes, practice on the pretest, and so on. In this way, one may 'identify better the amount of observed effects attributable to instructional treatments' (Ibid: 497).

The seven classes were randomly assigned to one of the three instructional groups: *the processing instruction group, the traditional instruction group, and the control group*, as in VanPatten & Cadierno (1993) and VanPatten & Wong (in press). Two classes were assigned to the processing instruction group; two classes to the traditional instruction group. Three classes formed the control group. The reason for selecting three classes as the control group was that in the work schedule, the administration of the posttest and the follow-up test to two control classes hit the weeks before official holidays. That is, in order to reach an adequate number of students in each group, the selection of three classes as the control group would be the best solution. While processing and traditional instruction groups were under treatment, the control group received no instruction on English causatives and continued their regular classes in Prep. Program.

A pretest (see section 3.3.2.2.) was given to 171 subjects (74 females and 97 males). As estimated earlier, the number of subjects in each group, especially in the control group, decreased due to the official holidays in Turkey. The final data pool was composed of the subjects who were present for the pretest, full

treatment, posttest, and follow-up test. The cut-off point on the pretest was determined as 60 % in order to investigate the level of improvement. The final n sizes were as follows: Processing n = 41 (17 females and 24 males), Traditional n = 39 (14 females and 25 males), and Control n = 40 (18 females and 22 males). The number of females and males was given to show that the population of the subjects was not composed of only females or males. Note that the gender is not one of the variables in this study. The age range was from 17 to 22 (see also Appendix E, pp. 138-149).

3.3.2. Instruments

3.3.2.1. Instructional Packets

Separate instructional packets for the processing and traditional groups were developed and balanced in terms of (a) vocabulary, (b) number of activities, and (c) practice time. The items in the processing packet were prepared in a way in which the students would not rely on event probabilities to interpret input strings. For example, when we look at the sentence *The doctor made the patient stay in bed*, we can easily interpret that the patient stayed in bed since in real life, doctors make patients stay in bed.

As in VanPatten & Cadierno (1993), the first page of both packets contained explicit grammar instruction about the causative constructions (see Appendix B, pp. 111-123). The processing group would also receive information about the word order problem that learners of English are confronted with while interpreting sentences that contain the causative constructions. The traditional group was not given this information since it was not the part of traditional approaches to grammar instruction and treating processing problems during explicit instruction was not common in traditional approaches.

Ten activities (Activities A through J) followed the explicit information page. *Activity F*, which was used in the pilot studies, was excluded because it was thought that it was not a good exercise in terms of teaching English causatives and the pilot studies showed that Turkish learners of English found this exercise improper to their culture.

Activity F is as follows:

Processing Instruction:

Instruction: Look at this list. Check the things you think are important to make a teenager do. Compare your responses with a classmate. (*Fuchs & Bonner, 1995*)

It's important to make a teenager

- stay out until midnight on weekends.
- stay over at a friend's house.
- travel alone to a foreign country.
- get a part-time job, etc.

Traditional Instruction:

Instruction: Read each sentence and fill in the blanks with the verbs given below.

learn stay dye pay get go take travel

It's important to make a teenager

1. _____ over at a friend's house.
2. _____ a part-time job.
3. _____ his or her hair another color.
4. _____ alone to a foreign country, etc.

3.3.2.1.1. The Processing Packet

In the processing packet, the activities were composed of structured input activities that consisted of both *referential* (Activities A through E) and *affective* (Activities F through J) activities (see Appendix B, pp. 111-123).

Referential activities are those meaning-based activities with right or wrong answers; for example, students hear a sentence and match it to one of the two pictures.

Affective activities are those in which students react to a statement or sentence by indicating whether or not it is true for them, who in their family does that, and so on (For the examples of referential and affective activities, see Appendix B, pp. 111- 123).

3.3.2.1.2. The Traditional Packet

As in the VanPatten & Cadierno study, activities in the traditional packet followed the pattern of moving from mechanical (Activities A through E), to meaningful (Activities F through G) and to communicative practice (Activities H through J) (see Appendix B, pp. 111-123).

The differences between the activities in the processing and traditional group can be summarized as follows: (a) structured input activities in the processing group make students attend to both meaning and form to successfully complete the activities but they never required students to produce the target structures; (b) activities in the traditional packet make students produce the target structures; the initial activities do not require students to attend to meaning to successfully complete the activities.

3.3.2.2. Assessment Tasks

In order to assess the effects of instruction, two versions of the assessment task as the pretest and posttest/follow-up test were developed by the researcher. Each test consisted of two parts: an interpretation task and a production task (see Appendix C, pp. 124-133). These versions differed in terms of the order of questions and the names of subjects and objects in each sentence, but the content stayed the same (see Appendix C, pp. 124-133).

As an interpretation task, a listening-based, three-option task was constructed. The students listened to the ten sentences including causative *make*, *get*, and *have* and non-causative *make*, *get*, and *have* and selected the meaning of each sentence. Ten items contained causative constructions and the remaining six were distracter items. The distribution of the causatives is as follows:

make someone do something: 4 items

have someone do something: 3 items

get someone to do something: 3 items

The sentences were read by the researcher only once in order to measure real-time comprehension. This time the researcher gave a 12 second-pause after each sentence.

For example, students heard:

Donald made Anne rewrite the report.

On their answer sheet, they were asked to choose the correct interpretation of the sentence.

a) Anne wrote the report again.

- b) Donald wrote the report again.
- c) Anne didn't write the report again.

Six distracter items contained *make*, *get*, and *have* which were not in the causative construction:

For example, students heard:

Mike had to make a choice between us, but Paul did not have to.

They were asked to choose the correct interpretation of the sentence above.

- a) Paul had to make a decision between us.
- b) Mike had to make a decision between us.
- c) Neither Edward nor Mike had to make a choice.

After the pilot studies, several items in the interpretation task were revised.

In the production task, students were asked to write a sentence describing the situation in each picture. The first part of each sentence was made available for them as in the pilot studies, but there was a difference. Two verbs were given and the students had to choose the right verb and complete the rest of the sentence. After the pilot studies, it was thought that test familiarity might have made the traditional group more advantageous. In order to change the production task, it was decided to give two verbs. In this way, students would not give multiple possible answers and the researcher would be able to see whether students would select the right verb according to the meaning differences between *make*, *get*, and *have*.

An example for this part is as follows:

In one conversation, Jack makes Victor turn the music down.

Students saw:

Jack made / had _____.

And they had to answer:

Jack made / had Victor turn the music down.

Five of these items were target items that required students to use the causative constructions. Five remaining items were distracter items that required students to use reported speech.

For example:

The students saw:

The manager had / asked _____.

And they had to answer:

The manager had / asked Eric if / whether he had had any experience.

Distracter items were used in order to see if students actually learned something from instruction or if they applied a test-taking strategy; that is, they made all sentences causative constructions because that was what they had learned.

The distribution of causatives was as follows:

had / made: 3 items

got / made: 2 items

got with non-causative verbs: 2 items

had with non-causative verbs: 2 items

made with non-causative verbs: 1 item.

3.3.2.2.1. Validity of the Assessment Tasks

If a test actually measures what it claims to measure, we can say that it is *valid*. The content validity refers to the question whether the items or tasks in the test match what the test as a whole is supposed to assess (Underhill, 1987:106). In order to measure the test's content validity, three experts in the dissertation committee were asked for feedback three times during one and a half years. Based on their comments on the test, some changes were made on the test throughout the study.

Their feedback on the second version of the test was considered to avoid possible factors affecting the subjects' scores in the tests. Thus, the second version of the post/follow-up test used in Pilot Study 2 was totally changed since its content was different from the pretest. It was decided that the names of subjects and objects should be changed, but the content should remain the same.

Their feedback on the production part of the test was seen valuable. The committee members thought that the TI group's superior performance in the production task in Pilot Studies 1 and 2 was due to the task familiarity; that is why, this part should be changed to a certain extent. In order to prevent such interfering

factors that might affect the results on the production task, the necessary changes were made.

As a conclusion, the test was considered content valid and appropriate for testing interpretation and production of the English causatives.

3.3.2.2.2. Reliability of the Assessment Tasks

'The reliability or stability of a test is concerned with the degree to which it can be trusted to produce the same result upon repeated administrations to the same individual, or to give consistent information about the value of a learning variable being measured' (Finocchiaro & Sako, 1983: 28). In other words, a test should produce consistent results and give consistent information. A test's reliability can be estimated with a 'reliability coefficient' (r_{xx}). In this study, 'split-half method' was used in order to estimate the internal reliability of the test. In this method, after its administration, the test is divided into two equal halves. The correlation between the two halves is an estimate of the test score reliability (Farhady et al., 1995: 136), but only the reliability of one half of the test, not the total test. In order to estimate the reliability of the total test, the Spearman Brown prophecy formula should be used (Ibid: 137).

$$r(\text{total}) = \frac{2(r \text{ half})}{1 + (r \text{ half})}$$

In this study, the reliability of the test used in pilot studies was estimated with split half method and the reliability coefficient of half of the test was computed to be 0.72. The reliability of the total test was as follows:

$$\begin{aligned} r(\text{total}) &= \frac{2(0.72)}{1 + 0.72} \\ &= \frac{1.44}{1.72} = 0.83 \end{aligned}$$

Consequently, the internal reliability coefficient of the total test given was calculated as 0.83.

Since some changes were made from Pilot Study 1 to the present study, the reliability coefficient of the test employed in the present study was calculated. The reliability coefficient of the half test was 0.79 and the reliability coefficient of the total test was calculated as 0.88. For Darren & Mallery (1995: 226), this means that the test was reliable enough. They give the following acceptable figures for reliability:

>.090 = excellent

>.080 = good

>.070 = acceptable

>.060 = questionable

>.050 = poor

<.050 = unacceptable.

As a result, we can say that the test was valid and reliable and it was appropriate for this study.

3.3.3. Procedures

3.3.3.1. Data Collection

In order to control teacher variables, the researcher delivered the explicit instruction and practice activities and administered the pretest, the posttest, and the follow-up test. Otherwise, there would be differences in terms of teaching style. Following VanPatten & Cadierno (1993), Allen (2000), VanPatten & Wong (in press), all instruction took place in the students' regular classrooms during their regularly scheduled class times in the 2002-2003 Fall Term. The researcher was the teacher of the two classes. The teachers of five classes were removed and the researcher gave the explicit instruction, practice activities, the pretest, the posttest, and the follow-up test. In the pilot studies, it was observed that administering the instruction and posttest one week after the pretest caused students to remember the test items easily. Therefore, two weeks after the pretest, instruction and posttest were given. The administration of the instructional treatment and the posttest

spanned two 50-minute class periods. This was a *short treatment* according to the categorization made by Norris & Ortega (2000), who grouped the treatment spanning less than 1 hour as *brief*; the treatment spanning 1 to 2 hours as *short*; the treatment spanning 3 to 6 hours as *medium*; and the treatment spanning 7 or more hours as *long* when they compared 49 studies on L2 grammar instruction. Norris & Ortega (2000: 473-474) found that the shorter-term treatments seem to produce larger effects than longer-term treatments due to the types of structures instructed within shorter- versus longer-term treatments, immediacy and construct proximity of outcome measures, and the relative intensity of instruction within shorter- versus longer-term treatments. The instructional treatment was not a rush; there were ten activities for each instructional group.

For the PI group, there were five *referential* activities based on oral input and five *affective* activities, which were communicative and based on written input (see section 3.3.2.1.1. and Appendix B, pp. 111-123). The researcher read the sentences and dialogues and recorded them for the first five activities. The students listened to the sentences and dialogues and the researcher asked them which choice was the correct one: a or b. In this way, she did not allow the students to produce English causatives. The five referential activities did not take too much time since the students listened to the sentences and dialogues once and the researcher immediately got the answers from the students. In the affective activities, the researcher asked the students which item or items were appropriate for them: first, second, third, etc. Again the researcher did not allow them to produce the structures. The students had questions about the words in the activities during the treatment. The researcher answered their questions about the words in order to prevent the students from misunderstanding the activities.

For the TI group, there were five mechanical, two meaningful, and three communicative activities (see section 3.3.2.1.2. and Appendix B, pp. 111-123). The mechanical and meaningful activities did not take too much time, but the communicative activities took more time. In communicative practice, the researcher asked the students to work in groups (Activities H and J) and in pairs (Activity I) and got the each group's answer; showed it on the board; and had the groups see whether they had the same impression of their grammar book, grammar lesson, etc.

The researcher had the students discuss their own experiences in Activity I with their partners. The students had questions about the words in the activities during the treatment. The researcher answered their questions about the words in order to prevent the students from misunderstanding the activities.

Immediately after the treatment (80 minutes), the posttest was given. The aim of giving the follow-up test was to see whether or not the proficiency gains from instruction remained stable. Five weeks after the posttest, the follow-up test was administered since prep. students were placed in different groups in the second semester. As a result, it was difficult to find the same students in the same classes. The researcher audio-taped the lessons that she gave in the processing and traditional groups in order to remember the stages of each instruction. All packets were picked up at the end of the treatments. None of the groups was assigned homework during the treatment and during the intervals between the posttest and follow-up test, no review of the English causatives was provided.

The data collection procedures were as follows:

Table 3.3. Data Collection Procedures

Treatment
Processing
Week 1 (October 9, 2002): Pretest
Week 3 (October 22, 2002): First Hour: Presentation + Activities A, B, C, D, E, F, G
Second Hour: Activities H, I, J + Posttest
Week 8 (November 26, 2002): Follow-up Test
Traditional
Week 1 (October 9-10, 2002): Pretest
Week 3 (October 22, 2002 & October 24, 2002): First Hour: Presentation + Activities A, B, C, D, E, F, G
Second Hour: H, I, J + Posttest
Week 8 (November 26, 2002 & November 28, 2002): Follow-up Test
Control
Week 1 (October 9, 2002 & October 11, 2002): Pretest
Week 3 (October 23, 2002 & October 25, 2002): Posttest
Week 8 (November 27, 2002 & November 29, 2002): Follow-up Test

3.3.3.2. Scoring Procedure

Only target items were scored. The interpretation task was worth 10 points. One point was assigned for each correct response; incorrect responses received a score of zero. The production task was worth 10 points; 2 points were awarded for each of the five sentences students had written correctly. Half point in each sentence was assigned for each of the four criteria: (a) the correct infinitive form of

the verb; (b) the inclusion and correct position of the object; (c) the correct infinitive form of the verb; and (d) the rest of the sentence. Half point in each sentence was not assigned for each of the following criteria: (a) the wrong choice of the causative verb; (b) the wrong choice of the second verb; (c) no object; (d) the wrong position of the object; (e) infinitive with *to* instead of *bare* infinitive; (f) *bare* infinitive instead of infinitive with *to*; (g) past participle form of the verb; (h) causative verb + object + verb + nothing; (I) gerund or preposition + gerund instead of *bare* infinitive or infinitive with *to*; (j) *to* + object; and (k) the wrong choice of the object. The decision to assign 2 points per sentence was made in order to reveal intermediate effects of instruction (as in VanPatten & Cadierno, 1993).

3.3.3.2.1. Inter-rater Reliability of the Production Task

For Alderson et al. (1995: 129), '*inter-rater reliability* refers to the degree of similarity between different examiners: can two or more examiners, without influencing one another, give the same marks to the same set of scripts or oral performances?' In examining inter-rater reliability, when two raters are involved, the correlation between two different raters can be computed and interpreted as an estimate of reliability. When more than two raters are involved, the ratings of the different raters are summed and the reliability of these summed ratings is estimated by computing a *coefficient alpha*, which was developed by Cronbach (1951, cited in Bachman, 1990) for estimating internal consistency and which is often referred to as 'Cronbach's alpha':

$$\alpha = \frac{k}{k-1} \left(1 - \frac{\sum s_i^2}{s_x^2} \right)$$

k = the number of raters

s_i^2 = the variance of the ratings for a given rater

$\sum s_i^2$ = the sum of the variances of different raters' ratings

s_x^2 = the variance of the summed ratings (Ebel, 1979: 282-4; cited in Bachman, 1990).

In order to achieve inter-rater reliability of the production (Part B) section of the pretest, posttest, and follow-up test, three raters scored the production task in each test. One of the raters was the researcher. The others were two English teachers who taught at the School of Foreign Languages. The raters were provided with a detailed key (For the detailed answer key for the pretest, see Appendix D, pp. 131-134). For the three tests, *coefficient alpha* was computed for each test with the help of SPSS 11 (Statistical Packet for the Social Sciences) software. Coefficient alpha was ,9960 for the pretest; ,9941 for the posttest, and ,9930 for the follow-up test. These alpha results showed that the degree of similarity between three raters was quite high (see also table 3.4.).

Table 3.4. Summary of Descriptive Statistics for three raters on the production task in the Pretest, Posttest, and Follow-up test

Test	Minimum score given	Maximum score given	Mean	SD
Pretest Part B				
Rater 1	, 00	8, 00	2, 92	2, 27
Rater 2	, 00	7, 50	2, 87	2, 25
Rater 3	, 00	8, 50	2, 91	2, 22
Posttest Part B				
Rater 1	, 50	10, 00	7, 03	2, 71
Rater 2	, 00	10, 00	6, 87	2, 83
Rater 3	, 50	10, 00	7, 02	2, 70
Follow-up Test Part B				
Rater 1	, 00	10, 00	6, 63	2, 37
Rater 2	, 00	10, 00	6, 61	2, 40
Rater 3	, 00	10, 00	6, 63	2, 26

3.3.4. Data Analysis

At the end of the study, there were two sets of data: interpretation and production. For each subject who participated in the study, there were six types of data:

- a) interpretation task scores obtained in the pretest;
- b) production task scores obtained in the pretest;
- c) interpretation task scores obtained in the posttest;

- d) production task scores obtained in the posttest;
- e) interpretation task scores obtained in the follow-up test;
- f) production task scores obtained in the follow-up test.

In order to test whether there will be any statistical differences in the interpretation and production of English causatives *have*, *make*, and *get* by the three groups of subjects (PI, TI, and Control), the interpretation and production data were analyzed (For the research questions of the present study, see section 1.4.).

Raw scores from the pretest were submitted to a one-way analysis of variance (ANOVA) since there were three groups and one dependent variable (the interpretation task scores in the pretest or the production task scores in the pretest). One-way ANOVA tests differences in a single dependent variable (pretest scores) among two, three, or more groups formed by the categories of a single independent variable (instruction – PI, TI, and Control) (Garson, 2002).

Raw scores from the pretest, post/follow-up tests were submitted to a two-way ANOVA since there were three groups and two independent variables (instruction and time). Two-way ANOVA is used to uncover the main and interaction effects of independent variables on a dependent variable. Interaction effects are the joint effects of combinations of independent variables, different from what would be predicted from any of the independents acting alone. That is, when there is interaction, the effects of an independent on a dependent varies according to the values of another independent (Garson, 2002). When the effects are significant, the means must be examined to determine the source of the effects. However, a significant F-value tells us only that the difference among the means of the several samples is significantly greater than zero. It does not tell us whether any particular sample mean significantly differs from any particular other (Lowry, 2003a). In order to find the source of the effects, there are procedures called ‘post hoc tests’ to help the researcher in this task (Stockburger, 2003:4) .

When significant differences were found, a post hoc multiple comparison procedure, the *Tukey HSD (honestly significant difference)*, was performed to establish the source of the differences (following Allen, 2000 and Benati, 2001). Here, k (the number of groups) was composed of three, so there would be three

potential comparisons: A.B, A.C, B.C (instruction- PI.TI, PI.Control, TI. Control; time- pretest.posttest, pretest.follow-up test, posttest.follow-up test).

The SPSS 11 software was used to analyze the interpretation and production data.

3.4. Pilot Studies

After having obtained the results of the pilot test, the study was limited to only causative verbs *make*, *have*, and *get* and passive causatives *have* and *get* were excluded from the study. In order to experiment with the materials and tests, two pilot studies were conducted in the Fall and Spring Terms of the 2001-2002 academic year. Table 3.5. shows the work schedule of the two pilot studies:

Table 3.5. Work Schedule of the Two Pilot Studies

Pilot Study 1	
January 11, 2002	Pretest
January 18, 2002	Treatment + Posttest
Pilot Study 2	
April 29, 2002	Pretest
May 6, 2002	Treatment + Posttest
May 20, 2002	Follow-up Test

3.4.1. Pilot Study 1

Subjects were Turkish students of English studying at the School of Foreign Languages at Eskişehir Anadolu University, Turkey. Their language level was determined by *the Michigan Placement Test* (For the evaluation for this test, see section 3.3.1.).

The intermediate level students were randomly assigned to three groups: *the processing group*, *the traditional group*, and *the control group*. While processing and traditional instruction groups were under treatment, the control group received no instruction on English causatives and continued their regular classes in Prep. Program.

The final data pool was composed of the subjects who were present for the pretest, full treatment, and posttest. The cut-off point on the pretest was 70 % since

the subjects were very proficient. If we had decreased the cut-off point to 60 % , we would have had subjects less than 21. The final n sizes were as follows: Processing n = 7 (3 females and 4 males), Traditional n = 7 (2 females and 5 males), and Control n = 7 (3 females and 4 males) (see section 3.3.1.). The age range was from 18 to 22.

Separate instructional packets for the processing and traditional groups were developed (see section 3.3.2.1.).

Eleven activities (Activities A through K) followed the explicit information page. In the processing packet, the activities were composed of structured input activities, whereas the activities in the traditional packet followed the pattern of moving from mechanical to meaningful and to communicative practice (see Appendix B, pp. 111-123).

A test was developed as the pre/posttest. The test consisted of two parts: an interpretation task and a production task (see Appendix C, pp. 124-133). The interpretation task was composed of sixteen sentences. Ten items contained causative constructions and the remaining six were distracter items. The students listened to the ten sentences including causative *make*, *get*, and *have* and the six sentences including non-causative *make*, *get*, and *have* and selected the meaning of each sentence. The sentences were read by the researcher. She gave an 18 second- pause after each sentence (For detailed information about the interpretation task, see section 3.3.2.2.). Only target items were scored (For the scoring procedure, see section 3.3.3.2.).

In the production task, the students were asked to write a sentence describing the situation in each picture. The first part of each sentence was given for them. For example, in one conversation, Jack makes Victor turn the music down. The students saw:

Jack made _____.

And they had to answer:

Jack made Victor turn the music down.

Five of these items were target items that required students to use the causative constructions. The distribution of causatives was as follows:

make someone do something: 2 items

have someone do something: 2 items
get someone to do something: 1 item.

Five remaining items were distracter items that required students to use reported speech. Distracter items were used in order to see if students actually learned something from instruction or if they made all sentences causative constructions because that was what they had learned.

Only the target items were scored. The production task was worth 10 points; 2 points were awarded for each of the five sentences the students had written correctly. One point in each sentence was assigned for each of the two criteria: (a) the correct infinitive form of the verb; (b) the inclusion and correct position of objects. One point in each sentence was not assigned for each of the following criteria: (a) the wrong choice of the verb; (b) the wrong choice of structure (e.g. if clauses or perfect tenses); (c) no object; (d) infinitive with *to* instead of *bare* infinitive; (e) *bare* infinitive instead of infinitive with *to*; (f) past participle form of the verb.

The researcher delivered the explicit instruction and practice activities. Each treatment was audio-taped. In this way, the researcher remembered the exact stages of each treatment.

The subjects were given the pretest one week before the treatment. Treatment time required 80 minutes and the posttest required 20 minutes. All packets were picked up at the end of the treatments.

Table 3.6. shows the treatment schedule of Pilot Study 1 for three groups of subjects.

Table 3.6. Treatment Schedule of Pilot Study 1 for three groups of subjects

Treatment
Processing
Week 1: Pretest
Week 2: First Hour: Presentation + Activities A, B, C, D, E, F, G, H, I
Second Hour: Activities I, J, K + Posttest
Traditional
Week 1: Pretest
Week 2: First Hour: Presentation + Activities A, B, C, D, E, F, G
Second Hour: H, I, J, K + Posttest
Control
Week 1: Pretest
Week 2: Posttest

Two sets of data were obtained from the tests: interpretation and production. For each subject who participated in the study, there were four types of data:

- a) interpretation task scores obtained in the pretest;
- b) production task scores obtained in the pretest;
- c) interpretation task scores obtained in the posttest;
- d) production task scores obtained in the posttest.

Two one-way ANOVAs were conducted on the pretest since there were three groups and one dependent variable (the interpretation task scores in the pretest or the production task scores in the pretest). These ANOVAs revealed no differences among the three groups before instruction ($F = 0,02$; $p = 0,98$ for the interpretation task and $F = 0,57$; $p = 0,57$ for the production task). This meant that any effects due to instruction were not related to prior knowledge or ability of any one group.

Tables 3.7 and 3.8. include the information about the obtained value of the interpretation task in the pretest ($p = 0,98$) and of the production task in the pretest ($p = 0,57$) , the degree of freedom (between groups: $k-1$ - number of groups minus 1 ; “ $3-1=2$ ” and within groups: $n-k$ - sample size minus the number of groups; “ $21-3=18$ ”), the sum of squares (the variation- *between groups*: the raw measure of the differences among the means of the groups; *within groups*: the raw measure of the variability that exists inside the groups), mean squares (a source population variance, which is SS / df), the F value (which is between MS divided by within MS) and the probability level ($p < ,01$), following the suggestion made by *the American Psychological Association* about reporting inferential statistics (e.g., t tests, F tests, and chi-square) (1994, cited in Norris & Ortega, 2000).

Table 3.7. ANOVA results for the interpretation task on the pretest- Pilot Study 1

	df	SS	MS	F-Value	Sig.
Between Groups	2	0,95	,04	,02	,98
Within Groups	18	43,71	2,42		
Total	20	43,81			

$P < ,01$

Table 3.8. ANOVA results for the production task on the pretest- Pilot Study 1

	df	SS	MS	F-Value	Sig.
Between Groups	2	1, 23	, 61	, 57	, 57
Within Groups	18	19, 42	1, 07		
Total	20	20, 66			

$P < ,01$

ANOVA puts all the data into one number (F) and gives us one p for the null hypothesis that the group means do not differ on the dependent variable being measured (scores on interpretation or production tasks). The F-value is calculated by dividing mean squares between groups (the source population variance among the groups) by mean squares within groups (the source population variance inside the groups) (Lowry, 2003a).

The calculation of the F-value for the interpretation task on the pretest can be shown as follows:

$$F = \frac{MS_{bg}}{MS_{wg}} = \frac{,04}{2,42} = ,02$$

Two-way analysis of variance was performed in order to see the main effects of the two independent variables (instruction and time) and the interaction between instruction (processing, traditional, and control) and time (before treatment and after treatment). There were two independent variables (instruction and time) and one dependent variable (either interpretation or production) (see J. D. Brown, 1988:177). In order to calculate ANOVA, *SPSS 11,0 for Windows* software was used.

Here, there are three separate F-values to calculate and three separate sets of significance to perform: one for the row variable (instruction), one for the column variable (time), and one for the interaction between the two variables (time x instruction) (Lowry, 2003b).

Figure 3.1. shows the components of a two-way ANOVA:

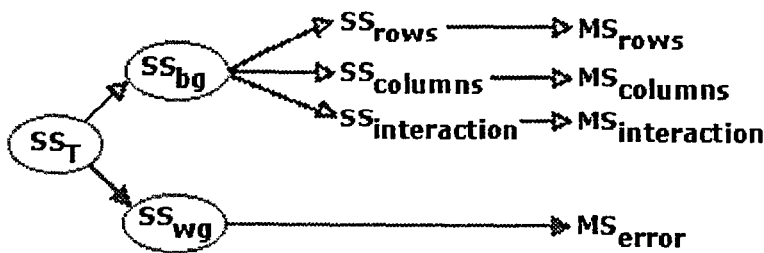


Figure 3.1. The Components of a two-way ANOVA (Lowry, 2003b)

The calculation of F-values for the interpretation task on the pretest and posttest can be shown as follows:

$$\begin{array}{lcl}
 F_{\text{rows}} = \frac{MS_{\text{rows}}}{MS_{\text{error}}} & F_{\text{colc}} = \frac{MS_{\text{cols}}}{MS_{\text{error}}} & F_{\text{rxc}} = \frac{MS_{\text{rxc}}}{MS_{\text{error}}} \\
 \\
 F_{\text{rows}} = \frac{,45}{1,96} = ,23 & & p = ,79 \text{ not significant} \\
 F_{\text{colc}} = \frac{66,88}{1,96} = 33,98 & & p = ,00 \text{ significant} \\
 F_{\text{rxc}} = \frac{,16}{1,96} = ,08 & & p = ,91 \text{ not significant}
 \end{array}$$

Table 3.9. ANOVA Summaries for Both Interpretation and Production Tasks in Pilot Study 1

	df	SS	MS	F-Value	Sig.
Interpretation task					
Source of variation					
Instruction	2	,90	,45	,23	,79
Time	1	66,88	66,88	33,98	,00 **
Time x instruction	2	,33	,16	,08	,91
Residual (error)	36	70,85	1,96		
Total	42	2211,00			
Production task					
Source of variation					
Instruction	2	27,47	13,73	10,18	,00 **
Time	1	59,52	59,52	44,11	,00 **
Time x instruction	2	38,90	19,45	14,41	,00 **
Residual (error)	36	48,57	1,34		
Total	42	1962,00			

* $p < ,05$; ** $p < ,01$

As seen above, in the interpretation task, only time, that is to say, pretest and posttest differed significantly ($F = 33,98$, $p = 0,00$). The interaction between time and instruction was not significant ($F = 0,08$, $p = 0,91$), whereas in the production task, instruction ($F = 10,18$, $p = 0,00$), time ($F = 44,11$, $p = 0,00$), and the interaction between time and instruction ($F = 14,41$, $p = 0,00$) were significant.

In order to see the sources of differences clearly, *Tukey's honestly significant difference (HSD)* was performed. Post Hoc Tukey HSD tests were not performed for time because there were only two tests but three instructional groups for both interpretation and production tasks. That is, there was no equivalence in the number of groups and tests. Post hoc tests, which were performed for instruction for the production task showed that the effect for instruction was due to the following contrasts: PI was significantly better than control ($p = 0,00$); TI was significantly better than control ($p = 0,00$); there was no significant difference between PI and TI ($p = 0,40$) (see table 3.10.).

Without a follow-up test, Pilot Study 1 seemed to be incomplete.

Table 3.10. Results of Post Hoc Tests (Pilot Study 1): Tukey HSD by instruction for production

Instruction	instruction	Mean Difference	Sig.
Control	processing	-1, 357	, 01 *
Control	traditional	-1, 928	, 00 *
Processing	traditional	-, 571	, 40

* $p < ,05$

The results of Pilot Study 1 were as follows:

1. On the interpretation task, both the processing and the traditional groups made significant gains. The control group also made progress.
2. On the production task, both processing and traditional groups improved significantly, whereas the control group made no progress (see section 3.4.3. for the comments on the results of Pilot Study 1).

These results are displayed graphically in figures 3.2. and 3.3. :

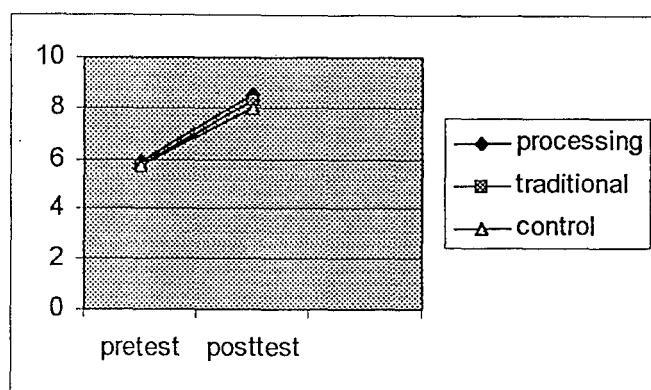


Figure 3.2. Results from Pilot Study 1 on the interpretation task

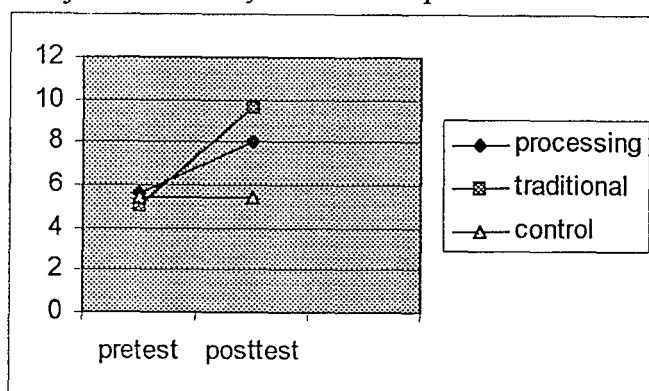


Figure 3.3. Results from Pilot Study 1 on the production task

Descriptive statistics provides us with numerical representations of how each group performed. There are two aspects of group behavior: *the center* and *the individuals*. Both are important because you should be able to visualize the typical behavior of the group, as well as the performance of those individuals who varied from it. These two aspects are called *central tendency* and *dispersion*. The *mean* is one of the indicators of central tendency. Dispersion is commonly estimated by the *range* (the number of points between the highest score and the lowest score) and *standard deviation* (average of the differences of all scores from the mean) (J. D. Brown, 1988: pp. 66-69).

In short, in order to interpret the typical behavior of a group and the variation in the performance of individuals, in descriptive statistics, mean is usually given with standard deviation and the range according to *the American Psychological Association* (1994, cited in Norris & Ortega, 2000; Tekin, 1982). We give the mean as the measurement of central tendency, so we report the standard deviations and ranges as well to show dispersion.

Table 3.11. Means and Standard deviations of three groups for Interpretation and Production Tasks- Pilot Study 1

Production Phase Two Study 2					
Variables	n	Pretest		Posttest	
		Mean	SD	Mean	SD
Interpretation a					
PI	7	5,85	1,34	8,57	,53
TI	7	5,71	2,05	8,28	1,88
C	7	5,71	1,11	8,00	,81
Production b					
PI	7	5,57	,53	8,00	1,82
TI	7	5,00	1,63	9,71	,48
C	7	5,42	,53	5,42	1,13

a range = 0-10

b range = 0-10

As seen in the above table, the interpretation data show that PI, TI, and Control groups improved from the pretest to posttest (PI: 5,85 - 8,57; TI: 5,71 - 8,28; Control: 5,71 - 8,00). The production data show that both PI and TI improved significantly greater than the control group from the pretest to posttest (PI: 5,57 - 8,00; TI: 5,00-9,71; Control: 5,42 - 5,42).

3.4.2. Pilot Study 2

A second pilot study was needed for the following reasons:

1. In Pilot Study 1, the researcher was not able to give students the follow-up test since the semester ended. As a result, she could not test the third and fourth research questions related to long term retention of interpretation and production.
2. In Pilot Study 1, the subjects seemed to memorize the test items. There might have been an effect for test familiarity and test order.
3. The instructional packets used in Pilot Study 1 needed some change. It was observed that some exercises had some items which were not good enough since they were not appropriate to the students' culture.
4. There was a need for the change in the pause time after each sentence in the interpretation task since the students found the right answer easily when given an-18-second-pause after each sentence. An- 18- second- pause should have been lowered to, for example, a- ten- second- pause.

The subjects came from the same population as that described in Pilot Study 1 but were not the same subjects. Their language level was intermediate and they were assigned to three groups as in Pilot Study 1.

The final data pool was composed of the subjects who were present for the pretest, full treatment, posttest, and follow-up test. The cut-off point on the pretest was again 70 % since the subjects were proficient due to their exposure to English. The final n sizes were as follows: Processing n = 12 (5 females and 7 males), Traditional n = 15 (7 females and 8 males), and Control n = 7 (4 females and 3 males). The age range was from 18 to 23.

A few changes were made in the instructional packets used in Pilot Study 1 and two versions of the assessment task were created. The first version was used as the pretest and the second one as the posttest / follow-up test. In this way, an effect for test familiarity and test order was avoided. In the second version, the whole content was changed. The interpretation task was read by the researcher. This time she gave a-10 second-pause after each sentence.

The researcher delivered the explicit instruction and practice activities. The two treatments were again audio-taped. The same procedure as in Pilot Study 1 was employed except for the follow-up test. The follow-up test was given two weeks after the treatment and the posttest (see table 3. 12.).

Two one-way ANOVAs conducted on the pretest alone revealed no differences among the three groups before instruction (F = 1, 21; p = 0,31 for the interpretation task and F = 0,13; p = 0,87 for the production task). This meant that any effects due to instruction were not related to prior knowledge or ability of any one group (see tables 3.13. and 3.14.).

Table 3.12. Treatment Schedule of Pilot Study 2 for three groups of subjects

Treatment	
<u>Processing</u>	
Week 1: Pretest	
Week 2: First Hour: Presentation + Activities A, B, C, D, E, F, G, H, I	
Second Hour: Activities I, J, K + Posttest	
Week 4: Follow-up Test	
<u>Traditional</u>	
Week 1: Pretest	
Week 2: First Hour: Presentation + Activities A, B, C, D, E, F, G	
Second Hour: H, I, J, K + Posttest	
Week 4: Follow-up Test	
<u>Control</u>	
Week 1: Pretest	
Week 2: Posttest	
Week 4: Follow-up Test	

Table 3.13. ANOVA results for the interpretation task on the pretest-Pilot Study 2

	df	SS	MS	F-Value	Sig.
Between Groups	2	13,46	6,73	1,21	,31
Within Groups	31	171,50	5,53		
Total	33	184,97			

$P < ,01$

Table 3.14. ANOVA results for the production task on the pretest- Pilot Study 2

	df	SS	MS	F-Value	Sig.
Between Groups	2	1,32	,66	,13	,87
Within Groups	31	150,79	4,86		
Total	33	152,11			

$P < ,01$

As seen in the ANOVA table below, in both the interpretation and production tasks, instruction ($F = 67,63$, $p = 0,00$ for the interpretation task; $F = 5,72$, $p = 0,00$ for the production task) and time ($F = 26,42$, $p = 0,00$ for the interpretation task; $F = 32,68$, $p = 0,00$ for the production task) revealed significant results. However, the interaction between time and instruction did not differ significantly ($F = 1,02$, $p = 0,40$ for the interpretation task; $F = 2,15$, $p = 0,08$ for the production task). Tables 3.16.; 3.17.; 3.18.; and 3.19. display the results of Tukey HSD post hoc tests and confirm the results of two-way ANOVA:

Table 3.15. ANOVA Summaries for Both Interpretation and Production Tasks in Pilot Study 2

	df	SS	MS	F-Value	Sig.
Interpretation task					
Source of variation					
Instruction	2	42,43	21,21	67,63	,00 **
Time	2	169,17	84,58	26,42	,00 **
Time x instruction	4	13,05	3,26	1,02	,40
Residual (error)	93	297,65	3,20		
Total	102	6825,00			
Production task					
Source of variation					
Instruction	2	53,96	26,98	5,72	,00 *
Time	2	307,89	153,94	32,68	,00 **
Time x instruction	4	40,64	10,16	2,15	,08
Residual (error)	93	438,01	4,71		
Total	102	4653,00			

* $p < ,05$; ** $p < ,01$

Table 3.16. Results of Post Hoc Tests (Pilot Study 2): Tukey HSD by instruction for interpretation

Instruction	instruction	Mean Difference	Sig.
Control	processing	-1,77	,00 *
Control	traditional	-1,26	,02 *
Processing	traditional	,51	,41

* $p < ,05$

As seen in the above table, the effect for instruction on the interpretation task was due to the following contrasts: PI was significantly better than Control ($p=0,00$); TI was significantly better than Control ($p=0,02$). However, no significant difference between PI and TI was found ($p=0,41$).

Table 3.17. Results of Post Hoc Tests (Pilot Study 2): Tukey HSD by time for interpretation

Time	time	Mean Difference	Sig.
Follow-up	posttest	-,23	,85
Follow-up	pretest	2,70	,00 *
Posttest	pretest	2,94	,00 *

* $p < ,05$

Table 3.7. shows that the effect for time on the interpretation task was due to the posttest and follow-up test which were significantly different from the pretest ($p=0,00$). However, there was no significant difference between the posttest and follow-up test ($p=0,85$).

Table 3.18. Results of Post Hoc Tests (Pilot Study 2): Tukey HSD by instruction for production

Instruction	instruction	Mean Difference	Sig.
Control	processing	-1,63	,02 *
Control	traditional	-1,89	,00 *
Processing	traditional	-,26	,85

* $p < ,05$

Table 3.8. shows that the effect for instruction on the production task was due to the following contrasts: PI was significantly better than Control ($p=0,02$); TI

was significantly better than Control ($p=0,00$). However, no significant difference between PI and TI was found ($p=0,85$).

Table 3.19. Results of Post Hoc Tests (Pilot Study 2): Tukey HSD by time for production

Time	time	Mean Difference	Sig.
Follow-up	posttest	-, 91	,19
Follow-up	pretest	3,73	,00 *
Posttest	pretest	4,64	,00 *

* $p < ,05$

As seen in table 3.19., the effect for time on the production task was due to the posttest and follow-up test which were significantly different from the pretest ($p=0,00$). However, there was no significant difference between the posttest and follow-up test ($p=0,19$).

The results of Pilot Study 2 were as follows:

1. On the interpretation task, both the processing and traditional groups made significant gains and retained this performance across the posttest and follow-up test. The control group also made gains, but not as significant as the processing and traditional groups.
2. On the production task, both processing and traditional groups improved significantly, but only the processing and control groups retained this performance across the posttest and follow-up test.

These results are displayed graphically in figures 3.4.. and 3.5.:

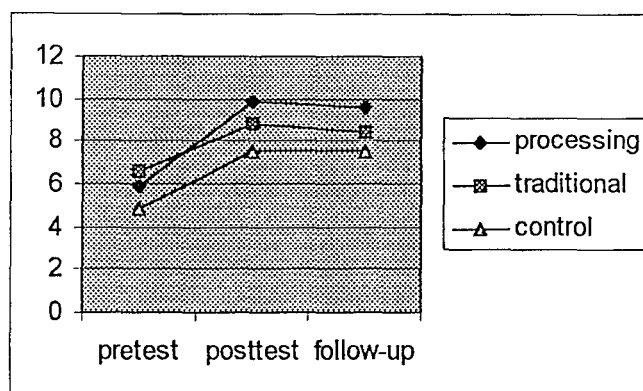


Figure 3.4. Results from Pilot Study 2 on the interpretation task

3.4.3. Discussion of the Results

The results of Pilot Study 1 reveal that on the interpretation task, there was a significant effect only for time. This means that the posttest was significantly greater than the pretest. However, there was no significant effect for instruction and no significant interaction between instruction and time. That is, there was no difference among the three groups. The answer to the first research question about the statistical differences among the three groups on the interpretation task was no. This kind of result was assumed to be due to the time which was given after each sentence in the interpretation task. Therefore, the time given for the interpretation task was decreased in Pilot Study 2.

On the production task in Pilot Study 1, there was a significant effect for instruction. That is, the PI and TI groups improved significantly, whereas the control group made no progress. There was a significant effect for time; that is, the posttest differed significantly from the pretest. Moreover, there was a significant interaction between instruction and time. The answer to the second research question about the statistical differences among the three groups on the production task was positive.

The third and fourth research questions about the retention of the possible positive effects for instruction on the interpretation task and on the production task could not be tested in Pilot Study 1. Therefore, Pilot Study 2 was conducted in order to test the third and fourth research questions.

The results of Pilot Study 2 reveal that on the interpretation task, there was a significant effect for time. That is, the posttest and follow-up test differed significantly from the pretest, but there was no significant difference between the posttest and follow-up test. There was a significant effect for instruction. The PI and TI groups' mean scores were better than the control group's, but there was no significant difference between the PI and TI groups. According to these results, the answer to the first research question about the statistical differences among the three groups on the interpretation task was positive. This result differed from the one found in Pilot Study 1. Our assumption about the reduction of the time given for the interpretation task was proved to be right.

For the production task in Pilot Study 2, there was a significant effect for instruction. That is, the PI and TI groups differed significantly from the control group, but there was no significant difference between the PI and TI groups. There was also a significant effect for time; the posttest and follow-up test differed significantly from the pretest, but there was no significant difference between the posttest and follow-up test. However, there was no significant interaction between instruction and time. This was different from Pilot Study 1 since a significant interaction between instruction and time was found in Pilot Study 1. The answer to the second research question about the statistical differences among the three groups on the production task was yes.

When we looked at the three groups' performance from the posttest to follow-up test, there was no significant difference between the posttest and follow-up test. In order to test the third and fourth research questions, we decided to remove the control group from the study. On the interpretation task, the PI group improved better than the TI group on the posttest and their performance remained stable on the follow-up test. The TI group also improved on the posttest and their performance remained the same on the follow-up test. The answer to the research question about the retention of the possible positive effects for instruction on the interpretation task was yes.

On the production task, the TI group improved better than the PI group on the posttest, but they could not show the same performance on the follow-up test, whereas the PI group also improved on the posttest and they showed the same performance on the follow-up test. As for the answer to the fourth research question about the retention of the possible positive effects for instruction on the production task was yes for the PI group, but no for the TI group, since the TI group could not continue the same improvement on the follow-up test.

The findings of the two pilot studies are remarkable, considering that the subjects in the PI group never once produced any causative sentences during the instructional treatment.

4. RESULTS AND DISCUSSION

The present study attempted to examine the possible effects of two different types of grammar instruction: *processing* and *traditional* on the interpretation and production of the causative constructions in English.

The study addressed the following research questions as has been previously given in section 1.4. :

1. Will there be any statistical differences among the interpretation of the English causatives by the following groups of learners:
 - a) those who receive processing instruction,
 - b) those who receive traditional instruction, and
 - c) those who receive no instruction on the English causatives?
2. Will there be any statistical differences among the production of the English causatives by the following groups of learners:
 - a) those who receive processing instruction,
 - b) those who receive traditional instruction, and
 - c) those who receive no instruction on the English causatives?
3. Would the possible positive effects for instruction on the interpretation task be retained equally well over time by the two instructional groups (processing and traditional)?
4. Would the possible positive effects for instruction on the production task be retained equally well over time by the two instructional groups (processing and traditional)?

A pretest was administered to the intermediate prep. students studying at the School of Foreign Languages at Eskişehir Anadolu University, Turkey. Two weeks after the administration of the pretest, treatment and the posttest, which was the second version of the pretest, were delivered to the PI and TI groups, while the control group received no instruction but the posttest. Five weeks after the treatment and posttest, the subjects were given the same posttest as the follow-up test.

4.1. Scoring

The pretest and post/follow-up test were composed of two tasks: interpretation and production. The interpretation task consisted of 10 items on the causative verbs *have*, *make*, and *get*, and 6 distracter items on the non-causative verbs *have*, *make*, and *get*. The production task consisted of 5 items on the causative verbs *have*, *make*, and *get*, and 5 distracter items on reported speech. Only target items were scored. The interpretation task was worth 10 points. One point was assigned for each correct response; incorrect responses received a score of zero. The production task was worth 10 points; 2 points were awarded for each of the five sentences students had written correctly. For inter-rater reliability, 3 raters scored the production task in each test (see section 3.3.3.2.1.).

4.2. Analysis of Data

Two one-way ANOVAs conducted on the pretest alone revealed no differences among the three groups before instruction ($F = .0,21$; $p = .0,80$ for the interpretation task and $F = 1, 18$; $p = .0,31$ for the production task) (For the interpretation of the one-way ANOVA table, see section 3.4.1.). This meant that any effects due to instruction were not related to prior knowledge or ability of any one group (see tables 4.1. and 4.2.).

Table 4.1. ANOVA results for the interpretation task on the pretest

	df	SS	MS	F-Value	Sig.
Between Groups	2	1, 16	, 58	, 21	, 80
Within Groups	117	322, 82	2, 75		
Total	119	323, 99			

$P < ,01$

Table 4.2. ANOVA results for the production task on the pretest

	df	SS	MS	F-Value	Sig.
Between Groups	2	11, 85	5, 92	1, 18	, 31
Within Groups	117	587, 04	5, 01		
Total	119	598, 90			

$P < ,01$

After all the tests had been applied, the results between pretest and posttest and between posttest and follow-up test were obtained. The results are illustrated in table 4.3. for the interpretation task and the production task. Table 4.3. illustrates the results of mean test scores and standard deviations for the PI, TI; and control groups. This table displays that for the interpretation data, both PI and TI groups improved from the pretest to posttest (PI: 3,00-8,46; TI: 3,23-7,17). The mean score decreased only slightly from the posttest to follow-up test for the PI group (8,46-7,92), while the TI group's mean score remained stable (7,17-7,15). The control group slightly improved from the pretest to posttest (3,05-4,27), but improved more from the posttest to follow-up test (4,27-6,32). However, this group's mean score was still lower than the PI and TI groups'.

For the production data in table 4.3., both PI and TI improved significantly greater than the control group from the pretest to posttest (PI: 2,57-8,49; TI: 2,78-8,41). The PI's mean score decreased slightly from the posttest to follow-up test (8,49-7,67), whereas the TI's mean score decreased a great deal (8,41-6,84). What was interesting here was that while both the PI and TI groups' mean scores became lower, the control group's mean score increased a little (3,96-5,29). Nevertheless, that score was still lower than the PI and TI's mean scores (PI: 7,67; TI: 6,84; C: 5,29) (for a discussion of the results, see section 4.3.).

Table 4.3. Means and Standard Deviations of three groups for Interpretation and Production Tasks

Variables	n	Pretest		Posttest		Follow-up Test	
		Mean	SD	Mean	SD	Mean	SD
Interpretation a							
PI	41	3, 00	1,70	8,46	2,00	7,92	2,61
TI	39	3, 23	1,61	7,17	2,28	7,15	2,93
C	40	3, 05	1,66	4,27	2,69	6,32	2,42
Production b							
PI	41	2,57	2,31	8,49	1,27	7,67	1,65
TI	39	2,78	2,27	8,41	1,37	6,84	2,49
C	40	3,31	2,11	3,96	2,35	5,29	2,16

a range = 0-10 b range = 0-10

4.2.1. Interpretation Data

In order to determine the possible effects of instruction on the way in which subjects interpret sentences containing the English causatives, raw scores of the interpretation pretest, posttest, and follow-up test were tabulated and a two-way analysis of variance (ANOVA) was performed (For the interpretation of the two-way ANOVA table, see section 3.4.1.). Instruction (PI, TI, and Control) was the between-subjects factor, whereas time (pretest, posttest, and follow-up test) was the within-subjects factor. The results of the ANOVA shown in Table 4.4. reveal a significant effect for instruction ($F = 22,63$, $p = 0,00$) and a significant effect for time ($F = 114,06$, $p = 0,00$). This means that instruction had a significant effect on test performance. There was a significant interaction between instruction and time ($F = 9,45$, $p = 0,00$) (see also section 3.3.4.). That is, the impact of instruction increased through time (before instruction and after instruction) and this increase caused a significant difference between the improvement of the three groups on the interpretation task.

Table 4.4. Summary Table for ANOVA Analysis Using Interpretation Data obtained from three tests

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F-Value</i>	<i>Sig.</i>
Interpretation task					
Source of variation					
Instruction	2	231, 30	115, 65	22, 63	, 00 **
Time	2	1165, 62	582, 81	114,06	, 00 **
Time x instruction	4	193, 20	48, 30	9, 45	, 00 **
Residual (error)	351	1793, 36	5, 10		
Total	360	14792,00			

* $p < ,05$; ** $p < ,01$

In order to determine which instruction caused the difference in the interpretation data, Post Hoc Tukey HSD tests were performed. According to the results of these tests, the effect for instruction was due to the following contrasts: PI was significantly better than Control ($p = 0,00$); TI was significantly better than Control ($p = 0,00$); no significant difference between PI and TI was found ($p = 0,09$) (see table 4.5.).

Table 4.5 Results of Post Hoc Tests : Tukey HSD by instruction for interpretation

Instruction	instruction	Mean Difference	Sig.
Control	processing	-1, 91	, 00 *
Control	traditional	-1, 30	, 00 *
Processing	traditional	, 60	, 09

* $p < ,05$

After having found a significant effect for time in the interpretation data, Post Hoc Tukey HSD tests were performed in order to find out the source of the effect. According to the results of these tests, the effect for time was due to the posttest and follow-up test which were significantly different from the pretest ($p = 0,00$). However, there was no significant difference between the posttest and the follow-up test ($p = 0,21$) (see table 4.6).

Table 4.6. Results of Post Hoc Tests : Tukey HSD by time for interpretation

Time	time	Mean Difference	Sig.
Follow-up	posttest	, 49	, 21
Follow-up	pretest	4, 05	, 00 *
Posttest	pretest	3, 55	, 00 *

* $p < ,05$

A visual representation of the gains and longer-term effects for the interpretation task across the pretest and follow-up test is shown in Figure 4.1.

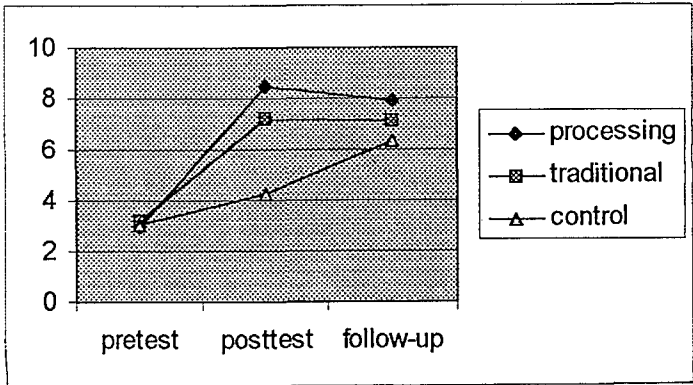


Figure 4.1. Interaction Plot for Instruction and Time in the Interpretation Data

4.2.2. Production Data

In order to determine the possible effects of instruction on the way in which the subjects produce English causatives, raw scores of the production pretest, posttest, and follow-up test were tabulated and a two-way analysis of variance (ANOVA) was performed (For the interpretation of the two-way ANOVA table, see section 3.4.1.). The results shown in table 4.7. reveal a significant effect for time ($F = 145,41$, $p = 0,00$) . This means that instruction had a significant effect on test performance ($F = 36,44$, $p = 0,00$). There was also a significant interaction between instruction and time ($F = 21,67$, $p = 0,00$). That is, the impact of instruction increased through time (before instruction and after instruction) and this increase caused a significant difference between the improvement of the three groups on the production task (see section 3.3.4.).

Table 4.7. Summary Table for ANOVA Analysis Using Production Data obtained from three tests

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F-Value</i>	<i>Sig.</i>
Production task					
Source of variation					
Instruction	2	304, 98	152, 49	36, 44	, 00 **
Time	2	1216, 96	608, 48	145, 41	, 00 **
Time x instruction	4	362, 71	90, 67	21, 67	, 00 **
Residual (error)	351	1468, 77	4, 18		
Total	360	14193, 31			

* $p < ,05$; ** $p < ,01$

In order to find out which instruction caused the difference in the production data, Post Hoc Tukey HSD tests were performed. According to the results of these tests, the effect for instruction was due to the following contrasts: PI was significantly better than control ($p = 0,00$); TI was significantly better than control ($p = 0,00$); there was no significant difference between PI and TI ($p = 0,65$) (see table 4.8.).

Table 4.8. Results of Post Hoc Tests : Tukey HSD by instruction for production

Instruction	instruction	Mean Difference	Sig.
Control	processing	-2 , 05	, 00 *
Control	traditional	-1,82	, 00 *
Processing	traditional	, 23	, 65

* $p < ,05$

To find out the source of the effect for time in the production data, Post Hoc Tukey HSD tests were performed. According to these tests, the effect for time was due to the posttest and follow-up test which were significantly different from the pretest ($p = 0,00$). However, there was no significant difference between the posttest and the follow-up test ($p = 0,38$) (see table 4.9.).

Table 4.9. Results of Post Hoc Tests: Tukey HSD by time for production

Time	time	Mean Difference	Sig.
Follow-up	posttest	-, 34	, 38
Follow-up	pretest	3,72	, 00 *
Posttest	pretest	4, 06	, 00 *

* $p < ,05$

A visual representation of the gains and longer-term effects for the production task across the pretest and follow-up test is shown in Figure 4.2.

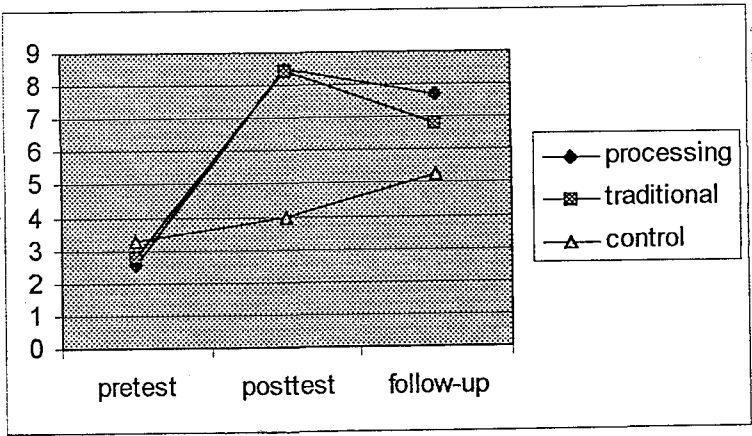


Figure 4.2. Interaction Plot for Instruction and Time in the Production Data

4.3. Discussion of the Findings

The results of the analysis of the interpretation data indicate that both the PI and TI groups resulted in some kind of knowledge gain due to the treatments. Both the PI and TI groups had a positive effect on how learners interpreted English causatives. The effects of both the PI and TI groups were retained over time. Consequently, the answers to the research question 1 about the statistical differences among the three groups on the interpretation task and the research question 3 about the retention of the possible positive effects for instruction on the interpretation task are positive. Both the PI and TI groups improved significantly greater than the control group. The improvement of the PI group on the interpretation task was greater than the TI and the control group. However, on the follow-up test, the control group improved, but their mean score was still lower than the PI's and TI's (PI: 7,92; TI: 7,15; C: 6,32). This kind of result might have happened due to the control group's maturation throughout the study and their practice on the tests (the pretest, posttest, and follow-up test) (see Appendix E, pp. 138-149) .

The results of the analysis of the production data indicate that both the PI and TI groups resulted in some kind of knowledge gain due to the treatments. Both the PI and TI groups had a positive effect on how learners produced the English causatives. The answer to the second research question about the statistical differences among the three groups on the production task is positive. The effect of instruction for the PI group decreased slightly on the follow-up test, but the decrease on the TI group's scores on the follow-up test was bigger. However, the control group improved on the follow-up test due to maturation and practice on the tests, but their mean score was still lower than the PI's and TI's (PI: 7,67; TI: 6,84; C: 5,29) (see Appendix E, pp. 138-149). The answer to the fourth research question is no. The question asked whether the possible positive effects of instruction on the production task would be retained equally well over time by PI and TI groups. Both PI and TI groups could not continue the same improvement on the follow-up test. However, the drop in the TI group's scores was greater than the drop in the PI's scores. This may be due to memory limitations of both

instructional groups. As a result, they may not have remembered the target structures they had been taught during the treatment.

When we compare the findings of the present study with the results found in Pilot Study 2, we observe that on the interpretation task, the same results were found in the present study and Pilot Study 2. However, on the production task, there are differences between the results of the present study and of Pilot Study 2. In the present study, there was no significant difference between the PI and TI groups, whereas in Pilot Study 2, the TI group was better than the PI group. In Pilot Study 2, only the PI and control groups retained the proficiency gains across the posttest and follow-up test, while in the present study, both the PI and TI groups could not retain the gains and only the control group's scores were durable. Our assumption that the task familiarity of the TI group may have caused the greater performance on the production task was proved as right (see section 3.3.2.2.).

Regarding the increase in the control group's performance throughout the study, the effectiveness of the distracter items on both interpretation and production tasks was sought. In order to do that, the distracters were scored (For the raw scores, see Appendix E, pp. 138-149). The distracter items on the interpretation task (non-causative *have*, *make*, and *get*) were worth 6 points. The correct answer was awarded 1 point, whereas incorrect or no answer was awarded a point of zero. There were 6 distracter items. In the pretest, all subjects seemed to use the first noun strategy, with a score of 70 or over. In the posttest and follow-up test, the PI group outperformed the TI and Control groups. In the pretest, the control group got the highest mean score and their mean score increased across the pretest, posttest, and follow-up test (4,57; 4,85; and 4,90). Although the researcher placed the subjects into the three different groups in a random manner, the results of the pretest showed that the control group's listening comprehension was good enough from the beginning when compared to the PI and TI's. When we added their maturation, more exposure to English during this study, and practice on the test, their performance was likely to become better day by day. We saw that there was parallelism between two groups of items on the interpretation task when we

compared the control group’s performance in the distracters with the one in the target items (see table 4.10.).

Table 4.10. Means and Standard Deviations of Target and Distracter items on the Interpretation Task

Tests- Interpretation Task					
Pretest					
Group	n	Target items a		Distracters b	
		Mean	SD	Mean	SD
PI	41	3,00	1,70	4,56	1,32
TI	39	3,23	1,61	4,38	1,26
C	40	3,05	1,66	4,57	,95
Posttest					
Group	n	Target items a		Distracters b	
		Mean	SD	Mean	SD
PI	41	8,46	2,00	4,92	1,29
TI	39	7,17	2,28	4,89	1,07
C	40	4,27	2,69	4,85	1,00
Follow-up Test					
Group	n	Target items a		Distracters b	
		Mean	SD	Mean	SD
PI	41	7,92	2,61	5,36	1,04
TI	39	7,15	2,93	4,64	1,24
C	40	6,32	2,42	4,90	1,21

a range = 0-10 b range = 0-6

For the distracter items on the production task, 0,5 point was awarded for each of the following criteria: a) Verb + Object + if / whether + the clause; b) Verb + Object + infinitive with *to* + the rest of the clause; or c) Verb + Object + Pronoun + Tense. Each item was worth 2 points. There were five distracter items (10 points). In the pretest, the control group outperformed the PI and TI groups. The TI group received the lowest mean. This means that the control group knew the reported speech better than the other two groups. Three groups performed better in the reported speech than in the causatives. In the posttest, it was observed that instructional groups (PI and TI) applied the causative rule (*have / make / get* + Object + (to) Verb) to the reported speech (e.g. *The manager had Eric to have any experience*). This means that the distracters were effective on the subjects who took the instruction. The rate of applying the causative rule to the reported speech was more in the TI group than the one in the PI group. Both the TI and control

groups' scores dropped across the pretest and posttest, whereas the PI's score increased a little in the posttest. In the follow-up test, all groups' means increased since they were taught the reported speech in the grammar lesson before taking the follow-up test. When we added their maturation, more exposure to English during this study, and practice on the test, the control group's performance was likely to become better day by day. We observed that there was parallelism between two groups of items on the production task except for the little drop in the mean score of distracters in the posttest when we compared the control group's performance in the distracters with the one in the target items (see table 4.11.).

The distracter items were used to see if students actually learned something from instruction or if they applied a test-taking strategy; that is, they made all sentences causative constructions because that was what they had learned. In short, the distracter items on both interpretation and production tasks were effective enough. That is, they distracted some of the subjects in the instructional groups.

We should also consider the individual differences among these three groups. Firstly, we should take into account of the notion whether or not the subjects really wanted to participate in this study. Their intention to learn the structures should be considered. According to the results, the control group seems to really want to participate in this study. This may have caused the increase in their performance in both the distracter and target items on the interpretation and production tasks across the pretest, posttest, and follow-up test. Secondly, individual differences in working memory capacity for both input and output processing should be taken into account (VanPatten, 2003: 96). There may have been some students who had limited working memory in each group. These students may have had trouble with comprehension and production of English causatives. The findings of this study show that the control group seems to have more room in working memory. As a result, they remembered the items in both tests.

Table 4.11. Means and Standard Deviations of Target and Distracter items on the Production Task

Tests- Production Task					
Pretest					
Group	n	Target items a		Distracters b	
		Mean	SD	Mean	SD
PI	41	2,57	2,31	5,69	2,05
TI	39	2,78	2,27	5,24	1,84
C	40	3,31	2,11	6,17	1,92
Posttest					
Group	n	Target items a		Distracters b	
		Mean	SD	Mean	SD
PI	41	8,49	1,27	5,73	1,79
TI	39	8,41	1,37	4,96	1,49
C	40	3,96	2,35	5,91	2,04
Follow-up Test					
Group	n	Target items a		Distracters b	
		Mean	SD	Mean	SD
PI	41	7,67	1,65	7,25	1,51
TI	39	6,84	2,49	6,06	2,10
C	40	5,29	2,16	7,23	1,41

a range = 0-10

b range = 0-10

4.4. Evaluation of the Results

Regarding the results of the tests on the target structures (causative verbs *have*, *make*, and *get*), this study has shown the following about the effects of PI:

- PI may convert some of the input data on English causatives to intake.
- PI has positive effects on the interpretation and production of English causatives by Turkish learners.
- PI is as effective as TI in learning of English causatives.
- The positive effects of PI are durable in the interpretation of English causatives by Turkish learners.
- The positive effects of PI are not durable in the production of English causatives by Turkish learners.

When we compare the results of this study with the results of the original VanPatten & Cadierno study (1993), of Allen (2000), and of VanPatten & Wong (in press), our results are similar to VanPatten & Wong's on both interpretation and production tasks and similar to VanPatten & Cadierno's only on the production task (see table 4.12.).

The results of the present study differ from Allen's. She found no difference between PI and TI on her interpretation task both immediately after treatment and later on a delayed posttest. As for the production task, she found an initial superior post-

treatment performance for the TI that disappeared on the second posttest but then reasserted itself on the third posttest.

Allen shared her materials and assessment tasks which she used in her study with VanPatten and Wong. In this way, VanPatten and Wong interpreted her materials and assessment tasks in detail. Their opinions were made use of by the researcher in order to find out the origin of the differences in Allen's results.

According to VanPatten & Wong (in press) and VanPatten (2002), the difference in results might have occurred due to the materials- the nature of the instructional treatments in Allen's study as well as the nature of the assessment tasks used in her study. There seemed to be no clear distinction between PI and TI in Allen's study, whereas in the present study, VanPatten & Cadierno's study, and VanPatten & Wong's study, there was a clear distinction between PI and TI. Even though TI is defined as the move from mechanical to meaningful to communicative practice, Allen had the learners be engaged in processing input strings much in the same way they would if they were part of the PI group. Some of the items in Allen's study do not take into account event probability. Recall that lexical semantics or event probability may help learners determine who does what (to whom); in this way, they may respond correctly but not because they have learned or know anything about the structure in question.

Allen preferred the first-person sentence structure from the interpretation task to the production task. The third-person sentence structure was maintained across both tasks in the present study, as did VanPatten & Cadierno and VanPatten & Wong in their studies. Allen had the subjects write five sentences involving *X me font Y* as the base structure. In VanPatten & Wong's study, the subjects had to discriminate between causative and non-causative *faire* in order to complete each sentence. In this way, VanPatten & Wong could tell to what extent the subjects had truly learned something from the treatment. In the present study, we added non-causative *make*, *have*, and *get* on the interpretation task.

On the production task, we used introductory verbs in reported speech- *say* and *ask* since the context of the dialogues required reported speech as well as causative construction. While the instructional packets and assessment tasks were in preparation, we considered lexical semantics and event probability. As a result, we excluded the

items containing lexical semantics and event probability from the instructional packets and assessment tasks.

Table 4.12. Summary Comparisons of Results from the Present Study with Results of Three Studies

	VanPatten & Cadierno (1993)	Allen (2000)	VanPatten & Wong (in press)	The Present Study
Interpretation				
Posttest 1	PI > TI = Control	TI = PI > Control	PI > TI > Control	PI > TI > Control
Posttest 2	PI > TI = Control	TI = PI > Control	n.a.	PI = TI > Control
Posttest 3	PI > TI = Control	TI = PI > Control	PI = TI > Control	n.a.
Production				
Posttest 1	PI = TI > Control	TI > PI > Control	PI = TI > Control	PI = TI > Control
Posttest 2	PI = TI > Control	TI = PI > Control	n.a.	PI = TI > Control
Posttest 3	PI = TI > Control	TI > PI > Control	PI = TI > Control	n.a.

n.a. = not available

Allen's study (2000) brings the issue of replication studies to question. We have to question whether or not Allen's study (2000) is a replication study. Her study at first seems to be a replication of the original VanPatten & Cadierno study (1993); however, when we look at the materials, procedure and assessment used in that study, we can say that it may not be a true replication study. We should interpret her results with caution (for replication studies, see Polio & Gass, 1997).

Even though VanPatten & Wong (in press) conducted a PI study on a target structure in a different language (French) from the language chosen for this study, their results were the same as those of this study. This may have been due to selecting causativity. This denotes that both Turkish and English learners have a default strategy in causativity: the *First Noun Strategy*. Perhaps this strategy is universal, but this study did not aim at testing the question whether the first noun strategy is universal or not.

In conclusion, as Ellis (1999: 74) pointed out, PI may promote intake, but it failed to measure the communicative behavior. Furthermore, 'the implicit linguistic system develops slowly and requires much exposure to input' (VanPatten, 2003: 59). The present study spanned a few weeks; it was not a longitudinal study. However, we should accept the positive effects of PI in the interpretation and production of the English causatives by Turkish learners.

5. CONCLUSION

5.1. Summary of the Study

This study attempts to examine the possible effects of two types of instruction : *processing* (PI) and *traditional* (TI) in learning of English causatives by Turkish learners and to see whether the possible positive effects are retained well over time by PI and TI groups. For this study, seven classes of 120 Turkish students at the School of Foreign Languages at Eskişehir Anadolu University, Turkey were randomly assigned to three groups: (a) processing instruction, (b) traditional instruction, and (c) no instruction. Two different instructional packets and a pretest and a post / follow-up test were administered. The tests consisted of two tasks: interpretation and production. The pretest was given two weeks before the treatment. The procedure regarding the treatment and the posttest spanned two 50-minute class periods. Five weeks later, the posttest was given as the follow-up test. Raw scores from the pretest, posttest, and follow-up test were submitted to a two-way analysis of variance (ANOVA). Results were shown in tables and figures.

The results of the analysis of the interpretation data indicated that both the PI and TI groups resulted in some kind of knowledge gain due to the treatments. Both the PI and TI groups had a positive effect on how learners interpreted English causatives. The effects of both the PI and TI groups were retained over time.

The results of the analysis of the production data indicated that both the PI and TI groups resulted in some kind of knowledge gain due to the treatments. Both the PI and TI groups had a positive effect on how learners produced English causatives. However, both the PI and TI groups failed to show the same performance in the follow-up test, but the drop in the TI group's scores was greater than the drop in the PI's scores.

5.2. Pedagogical Implications

This study has indicated that explicit grammar instruction is beneficial in making the students in the PI and TI groups notice the English causatives since the control group did not improve as much as the instructional groups did.

With PI, the implication that grammar instruction should be meaning-based and tied to input (VanPatten, 2003: 110). Accuracy has been replaced by noticing things in the input. Noticing forms is important, since learners have difficulty with many of the grammatical features due to the following: a) these features may be non-salient or hard to notice; b) they may be infrequent in the input; and c) they may be unnecessary for successful (getting the gist type) comprehension (Heilenmann, 1995: 7). By using structured input activities, we can have our students notice grammatical features that are problematic.

PI seems to complement communicative language teaching, not to replace it (Ellis, 1993; VanPatten, 1996). This can be achieved by means of grammar lessons taught alongside communicative lessons that cater to spontaneous language use with a focus on meaning (Ellis, 1999: 74). PI requires a structural syllabus taught by means of structured input activities. For Ellis (1999: 75), this syllabus needs to be used in parallel with a communicative syllabus (e.g., a task-based syllabus) (see Skehan & Foster (1997) for task type and task processing conditions).

With PI, the importance of attention to input has become evident. For Wong (2001b: 2), 'the more we understand how learners attend to input, the better equipped we will be at helping them process language.'

For Gass (1988) and VanPatten (1994), (cited in Doughty & Williams, 1998: 249), input that is not converted to intake is then lost and consequently is no longer available to any subsequent language acquisition processes. So, the important pedagogical issue is whether learners pay attention to form and how to get the attentional allocation increased, since the more one attends, the more learns. In order to increase attentional capacity, information may be presented in varying modalities.

According to Wong (2001b: 2-3), there are six necessary ingredients for successful adult language acquisition:

1. meaning- bearing comprehensible input
2. attention to input
3. means for making form-meaning connections
4. tasks that do not overload learners' processing capacity
5. opportunities for interaction and negotiation of meaning
6. a positively affective environment

We should bear in mind these ingredients and decide how to best incorporate these ingredients into our teaching. We can determine this according to the characteristics and needs of our students and of our curriculum (Ibid: 5-6).

When learners show no sign of comprehending a grammatical form, the focus should be on meaning. In IP, learners' false processing strategies are manipulated while metalinguistic information is kept to a minimum. If learners have some grasp of the meaning, more attention to form is possible. VanPatten suggests beginning with activities that require learners to process only input, as input shapes the necessary elements for the developing system. This helps learners to notice features of the input and to establish form-meaning connections. According to VanPatten, after these forms have been incorporated into the developing system, we can include output. The main purpose of this output is automatization and the development of fluency. (see VanPatten, 1996; VanPatten & Cadierno, 1993)

A focus on IP does not necessarily show that there is no role for output. Input provides the data, IP makes certain data available for acquisition. Output *can* be facilitative in development of fluency and accuracy as well as of other aspects of language development (see also Gass, 1997; Swain, 1985, 1998).

The Comprehensible Output (CO) Hypothesis claims that under some conditions, output facilitates second language learning in ways that are different from, or enhance, those of input (Swain & Lapkin, 1995). Krashen (1998) reviews the research and concludes that the claim of CO is hard to support.

When it comes to curriculum development, based on VanPatten's ideas on IP, Doughty & Williams (1998) suggest a curriculum option regarding input processing:

- A. Input → processing meaning
- B. Input processing → intake of formal features
- C. Output → fluency

This kind of option requires the combination of PI and communicative language teaching as suggested by Ellis (1999).

When we examine grammar textbooks, we can see, for example, causative constructions, mostly passive causatives, in one or two pages. In other words, some grammatical features are not included in textbooks in detail (For textbook issues, see Finneman, 1987 and Herschensohn, 1988).

Fuchs & Bonner's 'Focus on Grammar' (1995, 2000) can be an exception for causative verbs *have*, *make*, and *get*, since causative verbs are explained in 10 pages. Fuchs & Bonner first give structures in context and then try to make learners notice them. They integrate reading, listening, speaking, and writing. They start each unit with written and oral input. Later, they ask learners to access output through speaking and writing exercises. We can say that 'Focus on Grammar' can be a good example of joining input with output.

5.3. Suggestions For Further Research

In this study, the effects of PI in learning of the English causatives were compared. Further research should be carried out to compare the effects of PI in the learning of different linguistic features in English.

The sample size of this study was small (120 subjects). Future studies may be conducted with a larger size.

The tasks on the pretest and the post/follow-up test had no communicative behavior; that is students were not asked to speak or to do pair-work. A communicative oral production task can be added to the test in a future study.

Larsen-Freeman (1997) claims that the idea that grammar has to do only with sentence level and subsentence level phenomena is a myth and that it would be a mistake to teach students grammar only at the sentence and subsentence levels.

However, this study was at sentence level. Further studies may involve the English causatives at discourse level and explore that phenomenon.

In this study, only one processing strategy P3 (the first noun strategy) was investigated. Further studies may investigate other processing strategies in the VanPatten's Input Processing Model. For example, P1b (the lexical preference principle) may make predictions about a variety of grammatical features carrying semantic information encoded elsewhere in an utterance. P4 (the sentence location principle) can be utilized to examine forms in a language to decide to what extent they are acoustically non-salient (VanPatten, 2002: 768) (see section 2.7, table 2.2.).

Passive causatives were excluded from the study. In a future study, these causatives can be studied with causative verbs *have*, *make* and *get*.

Long-term effects of the two instructions (PI and TI) should be re-examined since the long-lasting effects of instruction in this study were measured only over a period of five weeks.

Input in this study (structured input) was controlled. In future studies, spontaneous input can be used by adding oral tasks.

Individual differences were not taken into account in this study. In a future study, learning styles and strategies of learners may be learned at the beginning.

5.4. Conclusion

This study attempted to compare the effects of two types of instruction: PI and TI. The results showed that PI enables learners to focus attention on specific grammatical features with beneficial effects on intake. We can draw following conclusions from the present study:

- PI has positive effects on the interpretation and production of English causatives by Turkish learners.
- PI is as effective as TI in learning of English causatives.
- The positive effects of PI are durable in the interpretation of English causatives by Turkish learners.
- The positive effects of PI are not durable in the production of English causatives by Turkish learners.

One of the reasons for causative constructions to be problematic can be the fact that they are less frequent in grammar books, thus they are non-salient to Turkish learners of English. Without underscoring the role of output in learning of grammatical features in English, first, we can use explicit information on causative constructions with making them notice their false processing strategies and then we can use ‘structured input activities’ (see section 2.8.1.) including those problematic forms. After that, combining the structured syllabus with a task-based one, we can make them produce causatives in English and give them corrective feedback when necessary. In this way, we can have them notice their false processing strategies; change those strategies, and produce them in a communicative task.

This study showed that PI can be remedial for some non-salient problematic grammatical features in English. Language teachers and curriculum developers may include it in the curriculum with a communicative focus in order to solve their students’ problems about those features.

APPENDICES

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APPENDIX A**THE PILOT TEST****PART A**

Instruction: Listen to the sentences including causative constructions read by the teacher. Choose the correct interpretation of the sentence. Choose a, b, or c.

1. a) I wrote the report again.
b) I didn't write the report again.
c) My teacher wrote the report again.
2. a) Leon is developing his photos himself.
b) The photographer wants Leon to develop his photos.
c) The photographer is developing Leon's photos.
3. a) Mr. Goldberg translated a short story.
b) We translated a short story.
c) We didn't translate a short story.
4. a) We must cut the lawn.
b) We must find someone to cut the lawn.
c) Someone may cut the lawn.
5. a) The director arranged a class trip.
b) Ms. Bates arranged a class trip.
c) The director didn't arrange a class trip.
6. a) I forgot to clean the windows.
b) I forgot not to clean the windows.
c) I forgot to ask the window-cleaner to clean the windows.
7. a) My father painted the house himself.
b) My father didn't find someone to paint the house.
c) My father asked a man to paint the house.
8. a) The patient stayed in bed.
b) The doctor stayed in bed.
c) The patient didn't stay in bed.
9. a) Ms. Allen pronounced an English *th*.
b) Can pronounced an English *th*.
c) Can didn't pronounce an English *th*.
10. a) Hector asked his classmates for help.
b) Ms. Young asked Hector's classmates for help.
c) Hector didn't ask his classmates for help.

SENTENCES TO BE HEARD

1. My teacher made me rewrite the report. (Fuchs & Bonner, 2000)
2. Leon is getting his photos developed. (Eastwood, 1992)
3. Mr. Goldberg had us translate a short story. (Fuchs & Bonner, 2000)
4. We must have the lawn cut. (Keleşoğlu et al., 1998)
5. Ms. Bates got the director to arrange a class trip. (Fuchs & Bonner, 2000)
6. I forgot to get the windows cleaned at the weekend. (Jackson & Jackson, 1994)
7. My father had the house painted last week. (Keleşoğlu et al., 1998)
8. The doctor made the patient stay in bed. (Azar, 1999)
9. Ms. Allen got Can to pronounce an English *th*. (Fuchs & Bonner, 1995)
10. Ms. Young had Hector ask his classmates for help. (Fuchs & Bonner, 1995)

PART B

Instruction: Put the verbs in brackets into the PAST SIMPLE or the PAST CONTINUOUS. (Dooley & Evans, 1999)

It _____ (happen) at ten o'clock last night. John _____
(sit) in his cosy living room with his wife and children. They _____
(watch) the evening news on TV when suddenly, the lights _____
(go out) and everything in the house _____ (become) quiet.

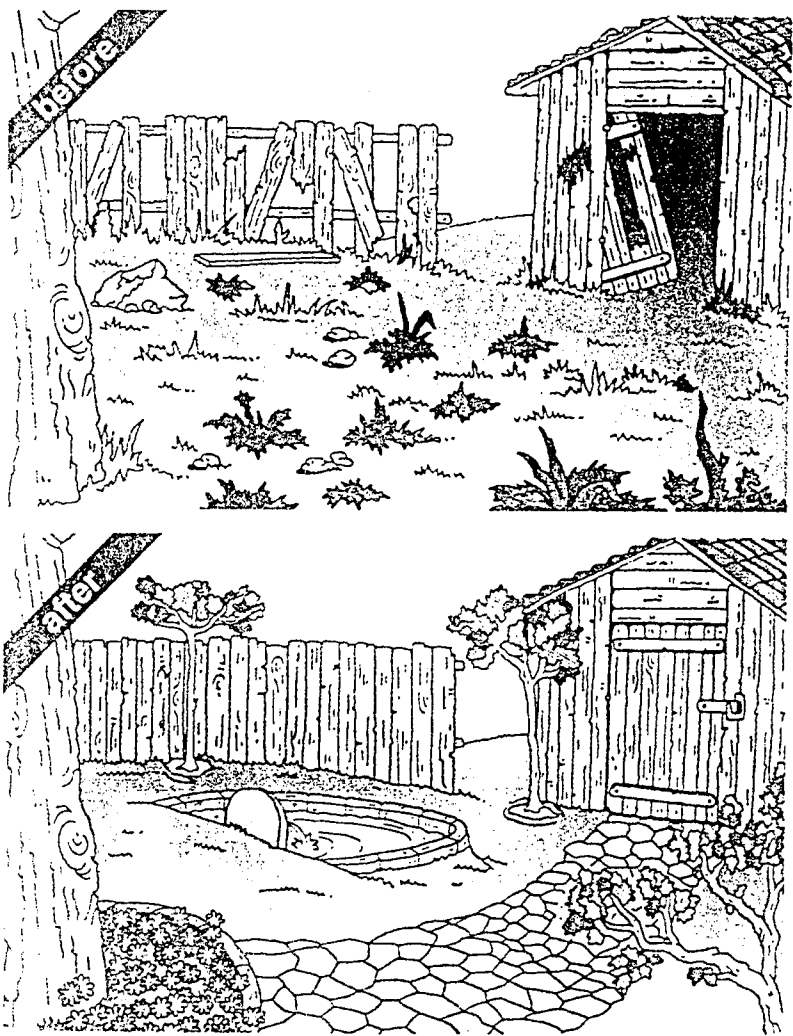
PART C

- a) **Instruction:** Write FIVE sentences including causative verbs HAVE, MAKE, and GET in order to answer the question below.
(Fuchs & Bonner, 1995)

“What should or shouldn’t teachers have or make students do?”

1. _____.
2. _____.
3. _____.
4. _____.
5. _____.

b) Instruction: The Jones' garden used to be very untidy. Recently, they have had a lot of work done. Look at the pictures and the prompts below and make sentences. (Dooley & Evans, 1999)



- 1. the shed / fix

- 2. a pond / make

- 3. the fence / repair

- 4. Some trees and flowers / plant

- 5. a path / lay

APPENDIX B: INSTRUCTIONAL PACKETS

CAUSATIVE VERBS *HAVE, MAKE, AND GET* EXPLICIT INFORMATION USED IN THE INSTRUCTIONAL PACKETS

We often ask people to do things for us by telling them to do something.

Jack says, “Tina, would you mind cooking tomato soup?”

We can describe what is happening here as follows:

“Jack has Tina cook tomato soup.”

This is called the causative construction since someone is causing something (a behavior) in someone else.

The causative verbs HAVE and MAKE are formed as in the following:

Subject	verb	object	base form	
They	(don't) make	us	do	homework.
	have			

The causative verb GET is formed:

Subject	verb	object	infinitive with to	
I	got	my brother	to carry	my suitcase.

As seen above, the causative verbs have, make, get are located after the subject.

- We use causatives to emphasize the person who does the action.

Example 1: Mrs. Lee **made her son clean** his room.

Who cleaned Mrs. Lee's son's room? Mrs.Lee or her son?

Example 2: Jane **had Sarah do** the dishes.

Who did the dishes? Jane or Sarah?

Example 3: Ali **got his barber to cut** his hair short.

Who cut Ali's hair short? Ali or his barber?

MAKE, HAVE, and GET can be used to express the idea that 'X' causes 'Y' to do something. When they are used as causative verbs, their meanings are similar but not identical.

(a) I **MADE** my brother **CARRY** my suitcase.

Here, my brother had no choice. I insisted that he carry my suitcase. **(insisting)**

(b) I **HAD** my brother **CARRY** my suitcase.

Here, my brother carried my suitcase because I asked him to. **(requesting)**

(c) I **GOT** my brother **TO CARRY** my suitcase.

Here, I managed to persuade my brother to carry my suitcase. **(persuading)**

So, we can say that **when we use the causative verb make, we insist that someone do something; when we use the causative verb have, we make a request, there is no insistence or using force; when we use the causative verb get, we persuade someone to do something.**

(The following additional information is for PI only.)

One of the problems the causative verbs (*make, have, get*) pose is in listening comprehension. Turkish learners often misinterpret what they hear due to the word order in causatives, so they tend to choose the first noun as the doer.

They hear: "John made Tom fix the tap."

They incorrectly think: "John fixed the tap for Tom."

But in fact it means "Tom fixed the tap for John."

In the following activities, we will practice hearing and interpreting the causative verbs **make, have, and get**.

(Adapted from VanPatten & Wong, forthcoming)

PRACTICE

ACTIVITY A: PROCESSING INSTRUCTION

Listen to the sentences including causative constructions read by the teacher. Choose the correct interpretation of the sentence. Circle a or b. (The students are expected to answer the following as the teacher reads Activity A: Teacher's Script below. This will be carried out when the teacher reads the sentences given below.)

1. a) I washed the windows.
b) My son washed the windows.
2. a) Tim went to class for Tom.
b) Tom went to class for Tim.
3. a) Some kids in the neighborhood cleaned out Kostas's garage.
b) Kostas cleaned out his garage.
4. a) Richard redid her report.
b) Richard didn't redo her report.
5. a) Tom Sawyer painted the fence.
b) His friends painted the fence.
6. a) Cem took pictures of everyone.
b) We took pictures of everyone.

ACTIVITY A: Teacher's Script

Read each sentence only ONCE. Review the answer after each question; do not wait until the end to review answers. Students do not repeat or otherwise produce the structure.

1. I made my son wash the windows before he could go outside to play.
2. Tom got his twin brother Tim to go to class for him.
3. Kostas got some kids in the neighborhood to clean out his garage.
4. Richard made Alice redo her report because he wasn't satisfied with it.
5. Tom Sawyer got his friends to paint the fence for him.
6. We had Cem take pictures of everyone who participated in our wedding.

ACTIVITY A: TRADITIONAL INSTRUCTION

Complete the sentences with words in parentheses. (Azar, 1999)

1. I made my son (wash) _____ the windows before he could go outside to play.
2. Tom had a bad headache yesterday, so he got his twin brother Tim (go) _____ to class for him. The teacher didn't know the difference.
3. Kostas got some kids in the neighborhood (clean) _____ out his garage
4. Richard made Alice (redo) _____ her report because he wasn't satisfied with it.

- 5. Tom Sawyer was supposed to paint the fence, but he didn't want to do it. He was a clever boy. Somehow he got his friends (do) _____ it for him.
- 6. We had Cem (take) _____ pictures of everyone who participated in our wedding.

ACTIVITY B: PROCESSING INSTRUCTION (*)

Listen to the sentences read by the teacher. Write who did the action in the blank. (The students are expected to answer the following as the teacher reads Activity B: Teacher's Script below.)

- 1. Who typed the letter? _____
- 2. Who cleaned the house? _____
- 3. Who made an appointment with Dr. White? _____
- 4. Who worked all day long? _____
- 5. Who had lunch? _____
- 6. Who shone Bill's shoes? _____
- 7. Who made a mistake? _____
- 8. Who walked the dog? _____
- 9. Who repaired the leak in the bathroom? _____
- 10. Who got to the office on time? _____
- 11. Who checked the contract? _____
- 12. Who got high marks? _____
- 13. Who designed the room again? _____
- 14. Who had a meal? _____
- 15. Who ate all his dinner? _____
- 16. Who installed the extension in the kitchen? _____

ACTIVITY B: Teacher's Script

Read each sentence only ONCE. Review the answer after each question; do not wait until the end to review answers. Students do not repeat or otherwise produce the structure.

- 1. Mr. Smith had Samantha type the letter.
- 2. Jane had Melissa clean the house last week.
- 3. Mary made an appointment with Dr. White, but Jim did not.
- 4. Tim made Jill work all day long.
- 5. Bob had lunch, but Joe did not.
- 6. Bill got Alex to shine his shoes.
- 7. Richard made a mistake, but Alice did not.
- 8. Tom made Sarah walk the dog.
- 9. Bruce had Jack repair the leak in the bathroom.
- 10. Sam got to the office on time, but Diana did not.
- 11. Alan got James to check the contract before he signed it.

12. On the last exam, Emma got high marks when Colin got low marks.
13. Tony made Alicia design the room again.
14. Rick had a meal while John was having a shower.
15. William got the stubborn child to eat all of his dinner.
16. Tina had George install the extension in the kitchen.

(*) Causative structures with make, get, have are mixed with non-causatives with make, get, have. In this way, students are required to listen to every sentence and not to apply a test-taking strategy. Otherwise, they will think that all sentences are causative because that is what they are learning.

ACTIVITY B: TRADITIONAL INSTRUCTION

Complete the sentences with words in parentheses. (Causative structures with make, get, have are mixed with non-causatives with make, get, have.)

1. Mr. Smith had Samantha (type) _____ the letter.
2. Jane had Melissa (clean) _____ the house last week.
3. Mary (make) _____ an appointment with Dr. White, but Jim did not.
4. Tim made Jill (work) _____ all day long.
5. Bob (have) _____ lunch, but Joe did not.
6. Bill got Alex (shine) _____ his shoes.
7. Richard (make) _____ a mistake, but Alice did not.
8. Tom made Sarah (walk) _____ the dog.
9. Bruce had Jack (repair) _____ the leak in the bathroom.
10. Sam (get) _____ to the office on time, but Diana did not.
11. Alan got James (check) _____ the contract before he signed it.
12. On the last exam, Emma (get) _____ high marks when Colin (get) _____ low marks.
13. Tony made Alicia (design) _____ the room again.
14. Rick (have) _____ a meal while John was having a shower.
15. William got the stubborn child (eat) _____ all of his dinner.
16. Tina had George (install) _____ the extension in the kitchen.

ACTIVITY C: PROCESSING INSTRUCTION

Listen as the teacher reads the sentences and choose the right interpretation. (Students are expected to answer the following as the teacher reads Activity C: Teacher's Script below.)

1. a) Ali made Ahmet pay for it.
b) Ali paid for it.
2. a) John had Mr. Brown mend my shoes.
b) John had ment my shoes.
3. a) My mother made Mr. Gardener plant roses.
b) My mother got Mr. Gardener to plant roses.
4. a) Edith had her father clean her bicycle.
b) Edith made her father clean her bicycyle.
5. a) George made Alan help him carry his bags.
b) George got Alan to help him carry his bags.
6. a) Zeynep made Deniz repeat everything three times a week.
b) Zeynep had Deniz repeat everything three times a week.

ACTIVITY C: TEACHER'S SCRIPT

Read each sentence only ONCE. Review the answer after each question; do not wait until the end to review answers. Students do not repeat or otherwise produce the structure.

1. Ali forced Ahmet to pay for it.
2. John asked Mr. Brown to mend my shoes.
3. My mother persuaded Mr. Gardener to plant roses.
4. Edith asked her father to clean her bicycle.
5. George persuaded Alan to help him carry his bags.
6. Zeynep forced Deniz to repeat everything three times a week.

ACTIVITY C: TRADITIONAL INSTRUCTION

Rewrite the following sentences using causative verbs HAVE, MAKE, and GET. (Keleşoğlu et al., 1998)

1. Ali forced Ahmet to pay for it.
 2. _____
 3. My mother persuaded Mr. Gardener to plant roses.
 4. _____
 5. George persuaded Alan to help him carry his bags.
 6. _____
-

ACTIVITY D: PROCESSING INSTRUCTION

You are going to hear short conversations. Choose the right summary sentences. (Students are expected to answer the following as they hear the conversations.)

- 1. a) Belinda made Mark work it out himself.
b) Belinda worked it out herself.
- 2. a) John tried again.
b) John made Sarah try again.
- 3. a) Denise had Robert tidy his room.
b) Denise didn't tidy it.
- 4. a) Samantha cleaned up the car herself.
b) Samantha got David to help clean up the car.

CONVERSATIONS TO BE HEARD

- 1. MARK: Belinda, I can't solve this problem. Can you show me how to do it?
BELINDA: Mark, it's better if you work it out yourself.
- 2. SARAH: John, the answer is 5.34.
JOHN: No, Sarah. I'll give you one more chance to get it right. Try again.
- 3. DENISE: Oh, Robert. Your room is a mess. I'd like you to tidy it now.
ROBERT: Oh, OK.
- 4. SAMANTHA: I would really appreciate it if you would help clean up this car, David.
DAVID: OK. I'll do it.

ACTIVITY D: TRADITIONAL INSTRUCTION

Read these short conversations. Complete the summary sentences, using the verbs in parentheses. (Fuchs & Bonner, 2000)

- 1. MARK: I can't solve this problem. Can you show me how to do it?
BELINDA: It's better if you work it out yourself.
SUMMARY: _____ (make) _____.
- 2. SARAH: The answer is 5.34.
JOHN: No. I'll give you one more chance to get it right. Try again.
SUMMARY: _____ (make) _____.
- 3. DENISE: Your room is a mess. I'd like you to tidy it now.
ROBERT: Oh, OK.
SUMMARY: _____ (have) _____.
- 4. SAMANTHA: I would really appreciate it if you would help clean up this car.
DAVID: OK. I'll do it.
SUMMARY: _____ (get) _____.

ACTIVITY E: PROCESSING INSTRUCTION

You are going to hear short conversations. Choose the right summary sentences. (Fuchs & Bonner, 2000) (Students are expected to answer the following as they hear the conversations.)

1. a) Sally made Pablo buy some cheese.
b) Sally didn't make Pablo buy some cheese.
2. a) Jane had Fernando clean the kitchen.
b) Jane cleaned the kitchen herself.
3. a) Sabrina made Jack cook spaghetti.
b) Sabrina cooked spaghetti.
4. a) Joan had Hector look the word up in a dictionary.
b) Joan didn't have Hector look the word up in a dictionary.
5. a) Liz didn't get Tamara to choose her own topic.
b) Liz got Tamara to choose her own topic.

CONVERSATIONS TO BE HEARD

1. PABLO: Sally, do I have to buy some cheese?
SALLY: Only if you want to, Pablo.
2. JANE: Fernando, could you do me a favor and clean the kitchen before you leave?
FERNANDO: Sure.
3. SABRINA: Jack, please cook spaghetti.
JACK: I really prefer eating to cooking.
SABRINA: You have to cook it today, Jack. I have lots of things to do.
4. HECTOR: Oh, Joan, what does *intractable* mean?
JOAN: I don't know its meaning. Why don't you look it up in a dictionary, Hector?
5. TAMARA: Liz, I can't think of anything to write about.
LIZ: Tamara, just pick a topic that interests you. A hobby, perhaps.
TAMARA: Oh, I know. I could write about ice-skating, Liz.

ACTIVITY E: TRADITIONAL INSTRUCTION

Read these conversations. Complete the summary sentences, using the correct form of the verbs in parentheses. Choose between affirmative and negative forms.

1. PABLO



Sally, do I
have to buy
some cheese?

SALLY



Only if you
want to.

SUMMARY: Sally _____ (make/buy) _____ some cheese.

2. JANE



Fernando,
could you do
me a favor and
clean the
kitchen before
you leave?



Sure.

FERNANDO

SUMMARY: Jane _____ (have/clean) _____ the kitchen.

3. SABRINA



Please cook
spaghetti.



I really prefer
eating to
cooking.

JACK

You have to
cook it today.
I have lots of
things to do.

SUMMARY: Sabrina _____ (make/cook) _____ spaghetti.

4. HECTOR



What does
intractable
mean?



I don't know
its meaning.
Why don't
you look it up
in a
dictionary?

JOAN

SUMMARY: Joan _____ (have/look up /it) _____ in a dictionary.

5. TAMARA



I can't think
of anything to
write about.



Just pick a
topic that
interests you.
A hobby,
perhaps.

Oh, I know. I
could write
about ice-
skating.

LIZ

SUMMARY: Liz _____ (get/choose) _____ her own topic.

ACTIVITY F: PROCESSING INSTRUCTION

Read each sentence and then decide whether or not it is typical behavior of a teacher who follows a student-centered approach. Compare your responses with a classmate.

	TYPICAL	NOT TYPICAL
The teacher.....		
1. has her students work in groups or pairs.		
2. makes her students write the topics she assigned.		
3. has her students keep journals.		
4. gets her students to select their own topics.		
5. doesn't have her students help each other edit their work.		

ACTIVITY F: TRADITIONAL INSTRUCTION

Fill in the blank with what you think the teacher must be making her students do. Use the following verbs.

keep write select help work

The teacher.....	
1. has her students _____ in groups or pairs.	
2. makes her students _____ the topics she assigned.	
3. has her students _____ journals.	
4. gets her students _____ their own topics.	
5. doesn't have her students _____ each other edit their work.	

ACTIVITY G: PROCESSING INSTRUCTION (*)

Read each statement below and decide whether the policies suggested below are good ideas or not. Respond to each of these sentences with: a good idea, partly a good idea, or a bad idea. Compare your responses with a classmate. (Thewlis, 2000)

- 1. a good idea
- 2. partly a good idea
- 3. a bad idea

	1	2	3
1. Parents should get their kids to play actively every day.	0	0	0
2. People shouldn't have a dentist examine their teeth regularly.	0	0	0
3. Dog owners should get their pets to run around freely.	0	0	0

4. A good manager should make his employees do their best.	0	0	0
5. The police should have people break the laws.	0	0	0

(*) Here, should is used with causatives since opinions are best expressed with should.

ACTIVITY G: TRADITIONAL INSTRUCTION

Read each statement and fill in the blanks with the verbs given below.

run	break	play	do	examine
1. Parents should get their kids _____ actively every day.				
2. People should have a dentist _____ their teeth regularly.				
3. Dog owners shouldn't get their pets _____ around freely.				
4. A good manager should make his employees _____ their best.				
5. The police shouldn't have people _____ the laws.				

ACTIVITY H: PROCESSING INSTRUCTION

Complete this survey. Then work in small groups. Compare answers. Do you and your classmates have the same perception of your grammar book? (Fuchs & Bonner, 2000)

Does your grammar book	Always	Often	Sometimes	Rarely	Never
1. make you think?	0	0	0	0	0
2. have you work in pairs and groups?	0	0	0	0	0
3. get you to speak in class?	0	0	0	0	0
4. get you to practice outside of class?	0	0	0	0	0
5. make you learn deductively?	0	0	0	0	0
6. make you learn inductively?	0	0	0	0	0
7. make you do fill-in-the-blank activities?	0	0	0	0	0

ACTIVITY H: TRADITIONAL INSTRUCTION

What does your grammar book make or have you do? Work in groups of five and make sentences about it. When you have finished it, compare your responses with other groups.

- Think
- Work in pairs and groups
- Speak in class
- Practice outside of class
- Learn deductively
- Learn inductively
- Do fill-in-the-blank activities
-

Do your group and other groups have the same perception of your grammar book?

ACTIVITY I: PROCESSING INSTRUCTION

Have you done the following recently? Choose TRUE FOR ME, PARTLY TRUE FOR ME, or NOT TRUE FOR ME. Compare your responses with a classmate.

- 1 true for me
- 2 partly true for me
- 3 not true for me

	1	2	3
1. I got my friend to lend me some money.	0	0	0
2. I made my roommate do the dishes.	0	0	0
3. I had my sister call me every Saturday evening.	0	0	0
4. I had my roommate clean the apartment.	0	0	0
5. I got my classmate to sign instead of me in grammar lesson.	0	0	0
6. I got my classmate to give me his class notes.	0	0	0
What did your parents make you do when you were a child?			
7. My parents made me go to bed at 9:00 p.m.	0	0	0
8. My parents made me brush my teeth before bed time.	0	0	0
9. My parents made me help my brothers and sisters with their homework.	0	0	0
10. My parents got me to learn a lot more. As a result, I always got good grades in school.	0	0	0

ACTIVITY I: TRADITIONAL INSTRUCTION

Answer the questions in complete sentences. Discuss your answers with your partner.

(Azar, 1999)

1. Have you persuaded someone to do something recently? What did you get him / her to do?
2. Have you forced someone to do something recently? What did you make him/her do?
3. Have you requested someone to do something recently? What did you have him/her do?
4. What did your parents make you do when you were a child?

ACTIVITY J: PROCESSING INSTRUCTION

In groups of three, tick what your grammar teacher makes you do in the grammar lesson.

- ☐ Do fill-in-the-blank activities
- ☐ Do communicative activities
- ☐ Listen to a dialogue
- ☐ Work in groups
- ☐ Work in pairs
- ☐ Do multiple choice exercises
- ☐ Read a passage
- ☐ Do vocabulary exercises
- ☐ Work individually
- ☐ Do speaking activities
- ☐ Do listening activities
- ☐ Do reading activities

A person from one group stands up and presents that group's list of activities to the class. Does everyone agree with that list?

Now tick what your core course teacher makes you do in the core course lesson.

ACTIVITY J: TRADITIONAL INSTRUCTION

What does your grammar teacher make or have you do in the grammar lesson? Work in groups of five and make sentences about it. When you have finished it, compare your responses with other groups.

- ☐ Do fill-in-the-blank activities
- ☐ Do communicative activities
- ☐ Listen to a dialogue
- ☐ Work in groups
- ☐ Work in pairs
- ☐ Do multiple choice exercises
- ☐ Read a passage
- ☐ Do vocabulary exercises
- ☐ Work individually
- ☐ Do speaking activities
- ☐ Do listening activities
- ☐ Do reading activities

Do your group and other groups have the same perception of the grammar lesson?

Now this time do the same thing for the core course lesson.

What does your core course teacher make or have you do in the core course lesson? Work in groups of five and make sentences about it. When you have finished it, compare your responses with other groups.

Do your group and other groups have the same perception of the core course lesson?

APPENDIX C

Pretest**Name:** _____ **Number:** _____ **Class:** _____ **Age:** _____ **Sex:** _____**PART A****Instruction: Listen to the sentences read by the teacher. Choose the correct interpretation of the sentence. Circle a, b, or c.**

1. a) Anne wrote the report again.
b) Donald wrote the report again.
c) Anne didn't write the report again.

2. a) Edward had to make a choice between us.
b) Mike had to make a choice between us.
c) Neither Edward nor Mike had to make a choice.

3. a) Paul translated a letter for Alan.
b) Alan translated a letter for Paul.
c) Alan didn't translate a letter for Paul.

4. a) Colin lengthened the trousers.
b) Bruce lengthened the trousers.
c) Colin didn't lengthen the trousers.

5. a) Jim made a lot of mistakes.
b) Bob made a lot of mistakes.
c) Neither Jim nor Bob made any mistakes.

6. a) Richard visited Steve at 7 o'clock.
b) Steve visited Richard at 7 o'clock.
c) No one visited Richard at 7 o'clock.

7. a) Mary made the beds.
b) George made the beds.
c) Someone else made the beds.

8. a) Sally didn't lend Tom her car.
b) Tom lent Sally his car.
c) Sally lent Tom her car.

9. a) Sam didn't help Mario cook dinner.
b) Sam helped Mario cook dinner.
c) Someone else helped Mario cook dinner.
10. a) Samantha got a week's leave in August.
b) Macy got a week's leave in August.
c) Samantha didn't get a week's leave in August.
11. a) John promised Mark to write him once a week.
b) Mark didn't promise John to write him once a week.
c) Mark promised John to write him once a week.
12. a) Sean lived shorter than Larry.
b) Larry lived shorter than Sean.
c) Sean lived longer than Larry.
13. a) Mary didn't bring her book to school.
b) Jane brought her book to school.
c) Mary brought her book to school.
14. a) Bill got himself into trouble because he wasn't careful.
b) Mark got himself into trouble because he wasn't careful.
c) Mark didn't get himself into trouble because he was careful.
15. a) Alex did the dishes after dinner.
b) Denise did the dishes after dinner.
c) Alex didn't do the dishes after dinner.
16. a) Anne cleaned out the food cupboards.
b) Jamie cleaned out the food cupboards.
c) Someone else cleaned out the food cupboards.

SENTENCES TO BE HEARD**Pretest**

To the Teacher: Read the following sentences only ONCE. Give a- twelve- second- pause after each sentence.

1. Donald made Anne rewrite the report.
2. Mike had to make a choice between us, but Edward did not have to.
3. Paul got Alan to translate a letter for him. (Azar, 1989)
4. Bruce had Colin lengthen the trousers. (Keleşoğlu et. Al., 1998)
5. Jim made a lot of mistakes on the exam, but Bob did not.
6. Richard got Steve to visit him at 7 o'clock.
7. Mary made the beds while George was fixing breakfast.
8. Tom had Sally lend him her car. (Azar, 1999)
9. Mario made Sam help cook dinner.
10. Samantha managed to get a week's leave in August, but Macy did not.
11. John made Mark promise to write him once a week. (Azar, 1999)
12. Sean had only a short time to live while Larry had more time.
13. Jane got Mary to bring her book to school.
14. Mark got himself into frightful trouble while Bill was more careful.
15. Denise had Alex do the dishes after dinner.
16. Anne made Jamie clean out the food cupboards in the kitchen.

PART B
Instruction: Circle the correct verb and complete the sentences.

1. JACK

VICTOR



Turn the music down! I want to study!



OK. OK. I'll do it. Calm down!

Jack **made / had** _____.

2. MANAGER

ERIC



Have you had any experience?



The manager **had / asked** _____.

3. AMY

Can you lend me some money?



I need it for my bills.



Well, let me think.

OK. I'll do it.

JANE

Amy **got / made** _____.

4. JAMES

COLIN



Would you please not call the police?



James **made / asked** _____.

5. NICK

Sorry, I can't meet you because I'm very busy.



JENNY

Nick **said / had** _____.

6. MARY



Will you send my
letter, please?



JOHN

No
problem.

Mary **had / got** _____.

7. MASON



Would you like to
come to my party?



SALLY

Mason **got / asked** _____.

8. TOM



Mum, I'd like to watch
more television tonight.



MOTHER

OK, then! Good night.

No, my dear. Go to bed
immediately!

Tom's mother **had / made** _____.

9. RACHEL



I want to eat lunch now.



ALEX

Rachel **said / got** _____.

10. ANITA

Would you get some milk for
me?

SAM



Thank
you.



Sure.

Anita **got / had** _____.

Post / Follow-up Test**Name:****Number:****Class:****Age:****Sex:****PART A**

Instruction: Listen to the sentences read by the teacher. Choose the correct interpretation of the sentence. Circle a, b, or c.

1. a) Mark visited John at 7 o'clock.
b) John visited Mark at 7 o'clock.
c) No one visited Mark at 7 o'clock.
2. a) Edward made a lot of mistakes.
b) Kyle made a lot of mistakes.
c) Neither Edward nor Kyle made any mistakes.
3. a) Jenny didn't lend Sam her car.
b) Sam lent Jenny his car.
c) Jenny lent Sam her car.
4. a) James didn't help Tom cook dinner.
b) James helped Tom cook dinner.
c) Someone else helped Tom cook dinner.
5. a) Tina got a week's leave in August.
b) Mary got a week's leave in August.
c) Tina didn't get a week's leave in August.
6. a) Sheila translated a letter for Sharon.
b) Sharon translated a letter for Sheila.
c) Sharon didn't translate a letter for Sheila.
7. a) Bill had to make a choice between us.
b) Richard had to make a choice between us.
c) Neither Bill nor Richard had to make a choice.
8. a) Melisa wrote the report again.
b) Jack wrote the report again.
c) Melisa didn't write the report again.

9. a) Charles promised Steve to write him once a week.
b) Steve didn't promise Charles to write him once a week.
c) Steve promised Charles to write him once a week.
10. a) Rita made the beds.
b) Jim made the beds.
c) Someone else made the beds.
11. a) Tim lengthened the trousers.
b) Sean lengthened the trousers.
c) Tim didn't lengthen the trousers.
12. a) Tom got himself into trouble because he wasn't careful.
b) Nick got himself into trouble because he wasn't careful.
c) Nick didn't get himself into trouble because he was careful.
13. a) Samantha cleaned out the food cupboards.
b) Rachel cleaned out the food cupboards.
c) Someone else cleaned out the food cupboards.
14. a) Mason did the dishes after dinner.
b) Amy did the dishes after dinner.
c) Mason didn't do the dishes after dinner.
15. a) George lived shorter than Sam.
b) Sam lived shorter than George.
c) George lived longer than Sam.
16. a) Sarah didn't bring her book to school.
b) Jill brought her book to school.
c) Sarah brought her book to school.

SENTENCES TO BE HEARD**Post / Follow-up Test**

To the Teacher: Read the following sentences only ONCE. Give a- twelve- second- pause after each sentence.

1. Mark got John to visit him at 7 o'clock.
2. Edward made a lot of mistakes on the exam, but Kyle did not.
3. Sam had Jenny lend him her car.
4. Tom made James help cook dinner.
5. Tina managed to get a week's leave in August, but Mary did not.
6. Sheila got Sharon to translate a letter for her.
7. Bill had to make a choice between us, but Richard did not have to.
8. Jack made Melisa rewrite the report.
9. Charles made Steve promise to write him once a week.
10. Rita made the beds while Jim was fixing breakfast.
11. Sean had Tim lengthen the trousers.
12. Nick got himself into frightful trouble while Tom was more careful.
13. Samantha made Rachel clean out the food cupboards in the kitchen.
14. Amy had Mason do the dishes after dinner.
15. George had only a short time to live while Sam had more time.
16. Jill got Sarah to bring her book to school.

PART B

Instruction: Circle the correct verb and complete the sentences.

1. JENNY



Can you lend me some money?

I need it for my bills.



TERESA

Well, let me think.

OK. I'll do it.

Jenny got / made _____.

2. LINDA



I want to eat lunch now.



COLIN

Linda said / got _____.

3. ERIC



Sorry, I can't meet you because I'm very busy.



TINA

Eric said / had _____.

4. JESSICA

Would you get some milk for me?

KYLE



Thank you.



Sure.

Jessica got / had _____.

5. JACK



Would you like to come to my party?



SAMANTHA

Jack got / asked _____.

6. EDWARD



Turn the music down! I want to study!

TONY



OK. OK. I'll do it. Calm down!

Edward **made / had** _____.

7. MANAGER



Have you had any experience?

NICK



The manager **had / asked** _____.

8. SHARON



Will you send my letter, please?



MARK

No problem.

Sharon **had / got** _____.

9. TOM



Would you please not call the police?

SEAN



Tom **made / asked** _____.

10. JOHN



Mum, I'd like to watch more television tonight.



MOTHER

OK, then! Good night.

No, my dear. Go to bed immediately!

John's mother **had / made** _____.

APPENDIX D

ANSWER KEY (PRETEST)

Part B

- a) the correct choice of the causative verb (0,5 point);
- b) the inclusion and correct position of the object (0,5 point);
- c) the correct infinitive form of the verb (0,5 point); and
- d) the rest of the sentence (0,5 point).

e.g. Jack made /had Victor turn the music down.

(a) (b) (c) (d)

Amy got / made Jane to lend her some money.

(a) (b) (c) (d)

Mary had / got John send her letter.

(a) (b) (c) (d)

Tom's mother had / made him go to bed immediately.

(a) (b) (c) (d)

Anita got / had Sam get some milk for her.

(a) (b) (c) (d)

0,5 point in each sentence will not be assigned for each of the following criteria:

- a) the wrong choice of the causative verb:

Jack had Victor turn the music down.

- b) The wrong choice of the second verb:

Jack made Victor study.

Amy got Jane to borrow some money.

- c) no object:

Jack made turn the music down.

- d) The wrong position of the object:

Tom's mother made go to bed for him.

- e) Infinitive with to instead of bare infinitive:

Jack made Victor to turn the music down.

f) Bare infinitive instead of infinitive with to:

Amy got Jane lend her some money.

g) Past participle form of the second verb:

Jack made Victor turned the music down.

h) Causative verb + Object + Verb + nothing:

Jack made Victor turn.

i) Gerund or preposition + gerund instead of bare infinitive or infinitive with to:

Amy got Jane lending some money.

Jack made Victor about turning the music down.

Anita had Sam about getting some milk for her.

j) To + Object:

Amy got to Jane to lend her some money.

Jack made to Victor turn the music down.

k) The wrong choice of the object:

Tom's mother made her go to bed.

0,5 point will be assigned out of 2 points:

Mary had asked to John about sending his letter.

Tom's mother made warning about going to bed.

Amy got money for the bills.

Mary had a letter to send.

Mary had a suggestion for sending her letter.

Anita got to get some milk.

Mary had to send the letter.

Mary got John to send his letter.

Amy got that she needed for her bills.

Jack made his homework so seriously.

Mary had a question about her letter.

Amy got some bills to pay so Jane will lend her some money.

Amy got a request to lend money.

Mary had a letter had to be sent.

Tom's mother made an imperative for Tom.

Anita had a request to have some milk.

Amy got money for her bills.

Mary had a letter.

Anita had some milk.

Jack made a permission for turning the music down.

Jack made an announcement to Victor that he wants to study.

Mary had will you send my letter, please.

1 point will be assigned out of 2 points:

Jack had to Victor turn the music down.

Jack made Victor to turned off the music for study.

Tom's mother made to Tom went to bed early.

Tom's mother made her to go to bed.

Jack made Victor to turn off the music.

Anita had to get some milk.

Jack made the music down.

Amy got some money.

Tom's mother made him to watched more TV.

Mary had told John to send her letter.

Anita got Sam to get some milk for her.

Mary got John to send her letter.

Tom's mother had Tom goes to bed.

Jack had to Victor turn the music down.

1,5 points will be assigned out of 2 points:

Amy got to lend her some money from Jane.

Mary had John would send her letter.

Anita had Sam would get some milk for her.

Jack had Victor turn the music down.

Amy got Jane to borrow some money.

Jack made Victor turned down the music.

Amy got Jane lent her some money.

Mary had John sent her letter.

Tom's mother made Tom gone to bed.

Anita had Sam got some milk for her.

Tom's mother made him went to bed.

0 point will be assigned out of 2 points:

Amy made a request for lending her bills.

Jack had wanted to study.

Tom's mother had to tell him truth.

Jack had shouted for the music volume.

Anita got some milk by Sam.

Jack had to be calm down.

Jack had to study.

Tom's mother had told that Tom must go to bed immediately.

Tom's mother had warned him for going to bed.

Mary got a problem about her letter that she gave to John.

Mary got a letter from John.

Mary got whom send her letter.

APPENDIX E**RAW SCORES OBTAINED FROM PRETEST, POSTTEST, AND FOLLOW-UP TEST****a) Raw Scores Obtained From the Interpretation Task in Pretest, Posttest, and Follow-up Test**

Subject	Age	Sex	Group	Target Items			Distracter Items		
				Pre	Post	Follow	Pre	Post	Follow
01	18	M	PI	2	7	6	4	3	4
02	18	M	PI	6	10	9	6	4	5
03	18	M	PI	2	10	9	6	6	6
04	19	F	PI	3	8	8	3	6	6
05	18	M	PI	2	7	10	3	4	5
06	19	M	PI	6	10	10	6	6	6
07	19	M	PI	5	5	10	3	3	6
08	18	M	PI	7	10	10	6	6	6
09	19	M	PI	1	10	10	6	6	6
10	18	F	PI	3	9	10	5	6	6
11	18	M	PI	3	9	9	5	6	6
12	18	M	PI	2	10	10	6	6	6
13	18	M	PI	2	10	10	6	6	6
14	18	F	PI	5	9	10	5	5	6
15	18	M	PI	3	6	7	5	4	5
16	17	F	PI	2	8	7	5	6	4
17	19	F	PI	4	9	10	3	6	6
18	19	M	PI	3	6	6	6	3	5
19	18	M	PI	5	10	10	5	6	6

Subject	Age	Sex	Group	Target Items			Distracter Items		
				Pre	Post	Follow	Pre	Post	Follow
20	19	F	PI	1	8	4	4	0	2
21	19	F	PI	4	9	3	5	5	6
22	18	F	PI	3	9	9	5	6	6
23	20	M	PI	3	10	10	5	6	4
24	19	F	PI	2	9	9	4	5	6
25	18	M	PI	2	10	10	5	5	6
26	18	F	PI	1	9	10	4	5	6
27	19	M	PI	3	10	10	4	5	6
28	18	F	PI	4	9	9	5	4	6
29	18	M	PI	1	2	2	1	5	6
30	19	M	PI	0	9	6	4	4	5
31	19	F	PI	3	8	9	4	6	5
32	18	F	PI	2	7	3	4	4	4
33	19	F	PI	5	10	10	6	6	6
34	19	F	PI	1	10	9	6	5	6
35	19	M	PI	0	10	5	4	4	3
36	18	M	PI	6	10	7	5	5	6
37	18	F	PI	3	7	9	6	6	6
38	18	M	PI	2	7	10	4	5	6
39	21	M	PI	4	10	2	1	4	3
40	21	M	PI	5	9	5	2	6	6
41	22	F	PI	2	2	3	5	3	4

Subject	Age	Sex	Group	Target Items			Distracter Items		
				Pre	Post	Follow	Pre	Post	Follow
42	20	M	TI	5	7	9	4	6	4
43	19	F	TI	4	4	10	5	4	4
44	18	M	TI	4	8	9	5	5	6
45	18	F	TI	4	8	5	2	4	4
46	18	M	TI	1	5	2	4	6	2
47	19	M	TI	5	7	8	3	6	5
48	18	F	TI	6	9	10	6	2	5
49	18	F	TI	2	8	9	5	5	3
50	19	M	TI	0	4	0	3	4	4
51	18	M	TI	3	7	7	3	4	4
52	18	M	TI	4	10	10	5	6	6
53	22	M	TI	7	9	10	2	5	6
54	22	M	TI	4	10	8	5	6	4
55	18	F	TI	2	6	5	5	3	5
56	18	M	TI	2	10	10	6	6	6
57	18	M	TI	2	1	7	6	5	6
58	19	F	TI	4	8	6	4	5	6
59	18	M	TI	2	7	1	3	4	3
60	19	M	TI	3	3	6	5	3	2
61	22	M	TI	4	9	5	5	6	3
62	21	F	TI	4	4	0	3	4	2
63	19	M	TI	3	3	2	4	5	4

Subject	Age	Sex	Group	Target Items			Distracter Items		
				Pre	Post	Follow	Pre	Post	Follow
64	19	F	TI	4	7	7	5	6	5
65	19	M	TI	3	8	8	4	6	4
66	17	M	TI	2	8	4	3	5	4
67	18	M	TI	4	10	9	5	4	4
68	19	F	TI	4	8	10	3	6	5
69	18	F	TI	2	10	10	6	6	6
70	21	F	TI	3	10	10	5	4	6
71	18	M	TI	0	6	10	5	6	5
72	19	M	TI	4	8	10	5	5	6
73	19	M	TI	4	7	7	5	6	6
74	21	M	TI	6	4	8	5	4	4
75	18	F	TI	4	6	9	6	6	5
76	18	M	TI	1	7	8	2	4	4
77	18	M	TI	5	8	8	6	6	6
78	18	F	TI	1	10	9	6	5	6
79	20	M	TI	1	7	7	5	4	6
80	21	F	TI	3	9	6	2	4	5
81	18	M	C	1	3	9	5	6	6
82	21	M	C	6	8	10	5	6	6
83	19	M	C	5	3	4	5	3	5
84	20	F	C	3	5	3	4	4	6
85	22	F	C	4	6	5	3	4	4

Subject	Age	Sex	Group	Target Items			Distracter Items		
				Pre	Post	Follow	Pre	Post	Follow
86	18	F	C	1	2	3	5	3	5
87	19	F	C	2	0	5	5	6	5
88	20	F	C	4	2	4	4	6	3
89	18	M	C	2	5	6	4	4	5
90	19	F	C	4	8	9	4	6	6
91	19	M	C	5	4	4	4	3	4
92	18	F	C	3	1	2	6	5	2
93	19	M	C	4	7	8	5	5	4
94	19	F	C	2	3	6	4	3	4
95	21	M	C	3	2	9	5	5	5
96	19	F	C	1	6	10	6	5	6
97	18	F	C	0	2	3	5	5	5
98	18	F	C	4	0	4	2	3	3
99	19	M	C	3	1	6	5	5	6
100	19	M	C	1	3	7	5	5	5
101	18	F	C	5	2	5	6	4	4
102	18	F	C	3	10	10	6	6	5
103	19	F	C	4	5	9	4	4	4
104	18	M	C	0	9	9	5	5	6
105	19	M	C	2	10	9	5	6	5
106	18	M	C	6	7	5	5	5	6
107	18	F	C	4	3	5	5	6	6

Subject	Age	Sex	Group	Target Items			Distracter Items		
				Pre	Post	Follow	Pre	Post	Follow
108	18	M	C	6	7	7	5	6	6
109	18	M	C	4	4	6	3	6	6
110	17	M	C	5	6	6	6	5	6
111	18	F	C	2	1	4	4	5	5
112	20	F	C	1	2	8	4	4	5
113	18	M	C	5	6	5	3	4	3
114	18	F	C	4	5	10	4	6	6
115	18	F	C	2	4	3	5	5	5
116	19	F	C	1	4	7	6	6	6
117	20	M	C	3	2	9	5	5	6
118	19	M	C	3	7	8	3	4	5
119	18	F	C	3	5	3	4	5	1
120	20	F	C	1	1	8	4	5	5

List of Abbreviations:

F = Female

M = Male

PI = Processing Instruction

TI = Traditional Instruction

C = Control

Pre = Pretest

Post = Posttest

Follow = Follow-up test

Target Items = Causative verbs have, make, and get (range = 0-10)

Distracter Items = Noncausative verbs have, make, and get (range = 0-6)

b) Raw Scores Obtained From the Production Task in Pretest, Posttest, and Follow-up Test

Subject	Age	Sex	Group	Target Items			Distracter Items		
				Pre	Post	Follow	Pre	Post	Follow
01	18	M	PI	3,1	8	7,1	6	5	7
02	18	M	PI	1,8	6,8	8,5	5,5	4	7
03	18	M	PI	2	10	9,5	7,5	6,5	7
04	19	F	PI	0	9	10	3,5	6	8,5
05	18	M	PI	1,5	10	10	8	6	9
06	19	M	PI	7,1	8,6	7,5	2,5	5	5
07	19	M	PI	5,8	7,6	9,5	7	7,5	8
08	18	M	PI	0	8,3	5,1	5,5	2,5	3,5
09	19	M	PI	1	7,8	7,8	7,5	6	7,5
10	18	F	PI	0	9,1	8,5	0	5	6
11	18	M	PI	1	8,5	9	6	6	6,5
12	18	M	PI	0	9,1	10	3	5,5	9
13	18	M	PI	0	9,8	9,5	5	7	8,5
14	18	F	PI	1,5	10	6	3,5	3,5	7
15	18	M	PI	2,5	10	6,3	8	8	9
16	17	F	PI	3,1	9	7,5	6,5	8	9,5
17	19	F	PI	0	9,3	10	6	6	10
18	19	M	PI	3,5	6,6	7	8	7	7
19	18	M	PI	0,1	9,6	9	4	5	7,5

Subject	Age	Sex	Group	Target Items			Distracter Items		
				Pre	Post	Follow	Pre	Post	Follow
20	19	F	PI	0	7	4,5	2	4	7,5
21	19	F	PI	1,3	7,8	9,8	5,5	1,5	7
22	18	F	PI	1,1	8	6,5	7,5	8,5	8,5
23	20	M	PI	0	8	8	3	3	5
24	19	F	PI	5	8	6,5	6,5	8	8
25	18	M	PI	5	9,5	8	6,5	5,5	8
26	18	F	PI	1,6	5,3	6,6	6,5	7,5	7
27	19	M	PI	3,3	9,6	6,8	4,5	5	8,5
28	18	F	PI	3,8	9	8,1	6,5	8	7,5
29	18	M	PI	1,5	6,3	2,1	4,5	4,5	7,5
30	19	M	PI	4,3	9,5	9,5	7,5	9	8,5
31	19	F	PI	2	10	8	4	5	6
32	18	F	PI	1,5	9,6	7,3	4,5	4,5	7,5
33	19	F	PI	5	8	7,5	7,5	6,5	7
34	19	F	PI	1	6,5	7,8	8	6,5	8,5
35	19	M	PI	7	9	7,1	10	8	8,5
36	18	M	PI	1,5	9,8	7,1	6	7	7
37	18	F	PI	6	6,8	6,6	6	5	5,5
38	18	M	PI	8	9,3	8,3	9	4	7
39	21	M	PI	2	9,6	8,3	5	2,5	2,5
40	21	M	PI	3,6	8,5	6	3,5	4,5	7
41	22	F	PI	7	6	6,5	6,5	7,5	5,5

Subject	Age	Sex	Group	Target Items			Distracter Items		
				Pre	Post	Follow	Pre	Post	Follow
42	20	M	TI	6,3	7,5	6,5	4	5	6
43	19	F	TI	6	8	7	6,5	5	5,5
44	18	M	TI	1,1	9,5	7	5	6,5	8,5
45	18	F	TI	2,3	9,8	8,8	6,5	5	5,5
46	18	M	TI	1,1	7,1	2	2,5	5	4
47	19	M	TI	1,3	8,3	7	5	4	7
48	18	F	TI	4	9	5,3	5	4	7
49	18	F	TI	5,3	9,5	7,3	6	5,5	8
50	19	M	TI	0	10	7,5	5,5	4,5	3
51	18	M	TI	0,5	8	9,5	6,5	3,5	4
52	18	M	TI	1,5	9,1	9,3	3,5	3,5	7,5
53	22	M	TI	2,5	10	6,5	7,5	3,5	7
54	22	M	TI	3	8	6,3	5	5	7
55	18	F	TI	0	8,1	7,3	7,5	5	8
56	18	M	TI	4,3	8,8	7,5	5	4	6
57	18	M	TI	0,5	7,6	6,5	5,5	3	4
58	19	F	TI	1,6	6,8	6,8	5,5	4	6
59	18	M	TI	0	9	1	3,5	6,5	7,5
60	19	M	TI	0	3,3	3	1,5	2	4,5
61	22	M	TI	1,3	8,8	2,3	2,5	3	4
62	21	F	TI	0	6	3	1	3,5	2,5
63	19	M	TI	0,5	9,5	6	3,5	3,5	7,5

Subject	Age	Sex	Group	Target Items			Distracter Items		
				Pre	Post	Follow	Pre	Post	Follow
64	19	F	TI	5,5	10	7,8	5,5	4	9
65	19	M	TI	5,8	8,6	8	4	5	4,5
66	17	M	TI	2	9,5	0	4	6	0
67	18	M	TI	6	7,6	8	5,5	5,5	8,5
68	19	F	TI	5,6	10	10	8,5	8,5	6
69	18	F	TI	6,5	7,6	9	8	6	9,5
70	21	F	TI	2	8,3	9,5	6	5	3,5
71	18	M	TI	2,8	9,6	10	4,5	5	7,5
72	19	M	TI	6,5	9	6,5	8	5,5	7,5
73	19	M	TI	6	9	8,1	8	7	8
74	21	M	TI	5,3	10	6	7	7,5	3,5
75	18	F	TI	1,5	7	10	5	4,5	6
76	18	M	TI	5	7,5	7,5	8	7,5	8
77	18	M	TI	1,5	7,8	8,5	4	8,5	8,5
78	18	F	TI	1,5	6,5	9	5,5	3,5	7,5
79	20	M	TI	1	8,5	6,6	6	5,5	4,5
80	21	F	TI	1	10	9	3	4,5	4,5
81	18	M	C	0	1	7	4,5	2,5	8
82	21	M	C	6,5	5,8	7	5	5,5	5,5
83	19	M	C	2,8	4,3	6,1	7,5	7,5	7,5
84	20	F	C	4,5	5,1	7	7	4,5	5,5
85	22	F	C	3,5	5,8	6,3	6	6,5	6,5

Subject	Age	Sex	Group	Target Items			Distracter Items		
				Pre	Post	Follow	Pre	Post	Follow
86	18	F	C	5,3	8,5	5	3,5	2	6,5
87	19	F	C	6,5	6,5	8	10	10	9,5
88	20	F	C	4	2	8,5	8	7,5	9
89	18	M	C	6	6,5	6	8	8	9
90	19	F	C	6,5	6,5	7	8,5	9	8
91	19	M	C	1,5	1,3	0	6,5	8	7
92	18	F	C	0	0,5	1,6	5,5	7,5	7,5
93	19	M	C	2,8	1,5	5,5	4	4	6,5
94	19	F	C	3	0,5	1	8	5	8,5
95	21	M	C	0	0,6	5,6	3,5	3	6
96	19	F	C	1,6	3	6,8	4,5	4,5	8
97	18	F	C	1,5	2,5	7	6	4,5	7,5
98	18	F	C	2	1,5	1,1	7	5,5	7,5
99	19	M	C	1,6	0,5	3,3	2,5	2	3
100	19	M	C	1	5	5,3	8	8	7
101	18	F	C	1	2	2	6,5	5	7
102	18	F	C	1,3	6,1	2,5	8	9	7
103	19	F	C	7	6	6	5	8,5	8,5
104	18	M	C	2,6	5	6,6	6	5,5	7,5
105	19	M	C	4,8	6,5	6,5	7	6,5	8
106	18	M	C	4,5	3,5	3	8,5	8	8,5
107	18	F	C	4,5	2,8	6	3,5	4	5,5

Subject	Age	Sex	Group	Target Items			Distracter Items		
				Pre	Post	Follow	Pre	Post	Follow
108	18	M	C	5	6,5	4,8	5	4,5	7
109	18	M	C	4,5	5,5	6,5	7,5	7,5	6,5
110	17	M	C	2,5	2,5	5,3	8	7,5	7,5
111	18	F	C	1,8	1	1,5	5,5	7	7
112	20	F	C	3,8	7,6	6,3	4,5	5,5	8
113	18	M	C	6,5	4,5	6,8	9	8,5	9,5
114	18	F	C	7	4,8	7	7	5,5	8,5
115	18	F	C	1	5,5	8	4,5	5,5	8,5
116	19	F	C	5	6,5	6	9	5	6,5
117	20	M	C	1,5	2,8	4	3,5	4	5
118	19	M	C	4,3	7	6	7,5	6	9,5
119	18	F	C	2,5	1,1	7	3	3	4,5
120	20	F	C	1	2,5	4,8	5	5,5	6

List of Abbreviations:

F = Female

M = Male

PI = Processing Instruction

TI = Traditional Instruction

C = Control

Pre = Pretest

Post = Posttest

Follow = Follow-up test

Target Items = Causative verbs have, make, and get (range = 0-10)

Distracter Items = Reported Speech (range = 0-10)

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