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Comparative Effectiveness of Input-based Instructions on L2 Grammar Knowledge: Textual Enhancement and Processing Instruction*

Girdi-temelli İki Farklı Öğretim Yönteminin İngilizce Dilbilgisi Öğretimine Etkileri: Metinsel Girdi Geliştirme ve Yapılandırılmış Girdi

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Abstract. This study investigated comparative effectiveness of Textual Enhancement (TE) and Processing Instruction (PI) on the acquisition of English simple present tense third person singular form by elementary level EFL young learners. To this end, 43 seventh grade secondary school learners were conveniently selected for the study and randomly distributed into two experimental groups: TE (n = 21), PI (n = 22). Each group received different instructions (namely TE or PI) during two consecutive regular classroom hours (80 minutes in total). The learners took a pretest one week before the instructions, an immediate posttest one day after the instructions, and finally a delayed posttest after four weeks. According to the results of an interpretation task and two production tasks, both types of instructions helped the participants to increase their performance on the interpretation task. However, the results from production tasks showed that both input groups could not improve their production scores as much as expected from the literature. Although the study was conducted with limited number of students and without a control group, its results still suggest that English language teachers can use input-based instruction to help especially young learners to comprehend notoriously difficult structures as in this study.

Keywords: Input-based Instruction, Textual Enhancement, Processing Instruction, Morphology, teaching English to young learners.

Public Interest Statement. This study investigated two different types of input-based interventions on the acquisition of English simple present tense third person singular -s. Overall findings clearly indicated that both types of interventions yielded positive results on the comprehension of the target structure, but not the same level of improvement on the production tests.

Öz. Bu çalışma, metinsel girdi geliştirme ve yapılandırılmış girdi alıştırmalarının İngilizce geniş zaman 3. tekil şahıs ekinin edinimine etkisini araştırmıştır. Deneysel çalışma, toplamda iki deney grubundan oluşmaktadır. Her bir deney grubuna bahsedilen alıştırma çeşitlerine ilişkin ayrı ayrı ikişer ders saati (toplamda 80 dakika) eğitim verilmiştir. Gruplara eğitimden bir hafta önce ön test, eğitimden bir gün sonra son test ve edinimin kalıcılığını ölçmek için dört hafta sonra geciktirilmiş son test uygulanmıştır. Katılımcılar ortaokul düzeyinde İngilizce'yi yabancı dil olarak öğrenen öğrenciler arasından seçilmiştir (n = 43). Testler hedef yapıyı kavramaya ve üretmeye yönelik iki farklı türde hazırlanmıştır. Araştırmanın sonuçlarına göre, her iki girdi-temelli öğretim yönteminin öğrenci başarısını hedef yapıyı kavrama düzeyinde olumlu yönde etkilediği, ancak üretme düzeyinde benzer etkiyi göstermediği bulunmuştur. Makale sonunda, sonuçlara yönelik genelde İngilizce öğretmenleri, özelde Türkiye'deki İngilizce öğretmenleri için bir dizi pedagojik önerilerde bulunulmaktadır. Bu çalışma sınırlı sayıda öğrenciyle yürütülmesine rağmen, sonuçlar İngilizce öğretmenlerinin girdi-temelli öğretim yöntemlerinin öğrenilmesi güç yapıların öğrenimini kolaylaştırmak amacıyla özellikle de çocuklara yabancı dil öğretiminde kullanabileceklerini önermektedir.

Anahtar Kelimeler: Girdi-temelli Öğretim Yöntemi, Metinsel Girdi Geliştirme Alıştırmaları, Yapılandırılmış Girdi Alıştırmaları, Biçimbilim, Çocuklara Yabancı Dil Öğretimi.

Toplumsal Mesaj. Bu çalışma iki farklı girdi temelli öğretim yönteminin, İngilizce geniş zaman eki olan -s takısının edinimine etkilerini araştırmıştır. Bulgular her iki yöntemin de hedeflenen yapıyı anlama düzeyinde olumlu sonuçlar ortaya koyduğunu, ancak üretim düzeyinde yeterince etkili olmadıklarını göstermiştir.

* Data reported in this article came from the MA thesis of the first author.

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1. INTRODUCTION

Teaching grammar in a foreign language classroom has always sparked off an intense debate in the language teaching field (e.g., Nassaji and Fotos, 2011). Even in our decade now, whether or how to fix learners' default processing problems related to L2 grammar has been discussed (e.g., Shintani, 2015; VanPatten, 2015). This fact has been documented in the very recent issues of some well-known journals such as Applied Linguistics and Language Learning, which have published either a meta-analysis study (Shintani 2015; Shintani, Li & R. Ellis 2013) or a narrative review (DeKeyser & Botana 2015) related to the effectiveness of input-based instruction and output-based instruction on the development of L2 grammar knowledge.

The debate, in fact, dates back to the era of Communicative Language Teaching methodology in 1980's, when Krashen (1982) for instance argued that explicit instruction or deliberate attempt to draw learners' attention to a specific linguistic structure does not necessarily help learners acquire it. Krashen (1985: 2) suggested, instead, providing "comprehensible input" through which learners can and should acquire language 'by understanding messages, or by receiving comprehensible input.' Given the fact that learners need to deal with 'a whole battery of different processing mechanisms' (Smith, 1993: 165), Schmidt (1990) on the other hand favored the role of "noticing" on L2 grammar, suggesting his "noticing hypothesis" because Schmidt states that noticing is a 'necessary and sufficient condition for converting input to intake' (p. 129).

However, other second language researchers (e.g., Ellis, 1990; Larsen-Freeman & Long, 1991; VanPatten, 1993) advocate the pivotal role of "formal explicit instruction" for development of L2 grammar knowledge. Specifically, according to VanPatten (1993, 1996, 2015), for instance, the fact that the input is whether comprehensible or meaning-bearing or noticeable does neither mean that the form is processed correctly and nor that the relationship between form and its meaning is established, because although the form is noticed by the learner noticing does not necessarily guarantee to establish form-meaning relationship (VanPatten, 2004).

Whether L2 grammar instruction is worth has been explored with studies comparing input-based instructions such as textual enhancement (hereafter TE) and processing instruction (hereafter PI). The underlying framework of both instructional types is given below prior to research studies conducted in the literature.

1.1 The Framework of Textual Enhancement and Processing Instruction

Smith (1991) proposed Input Enhancement as a 'deliberate input manipulation' technique by which learning occurs as a natural outcome of some internal learning strategy. The input enhancement model is closely related to Schmidt's (1990) noticing hypothesis. As an input enhancement intervention technique, TE refers to 'manipulating the typographical features of a written text so that the perceptual salience of a certain grammatical form of that text is increased.' (Wong, 2005: 120) The saliency is given by various techniques such as bolding, coloring, using a larger font size, italicizing, or underlining, etc. Put simply, according to insight of TE, the more salient the form in the text, the more noticeable. Nassaji and Fotos (2011: 41) juxtaposed the following guidelines for better enhanced texts:

a) Select a particular grammar point that you think your students need to attend to
b) Highlight that feature in the text using one of the textual enhancement techniques or their combination
c) Make sure that you do not highlight many different forms as it may distract learners' attention from meaning
d) Use strategies to keep learners' attention on meaning
e) Do not provide any additional metalinguistic explanation

Likewise, VanPatten (1996: 7) proposed his input processing theory, because in a foreign language classroom no one knows 'what learners do to input during comprehension – how intake is derived'.

Nor do we know 'how learners get form from input and how they parse sentences during the act of comprehension while their primary attention is on meaning.' (VanPatten, 2002: 757). Thus, VanPatten (1993, 1996) suggested his input processing theory and processing instruction as a pedagogical intervention of his theory to ensure that when learners process form, correct form-meaning connection is made, "better input" (Lee & Benati 2009: 38), or "richer intake from input" (Wong 2004a: 33) is taken correctly by strengthening processing mechanisms through focused practice or structured input activities (see Figure 1).

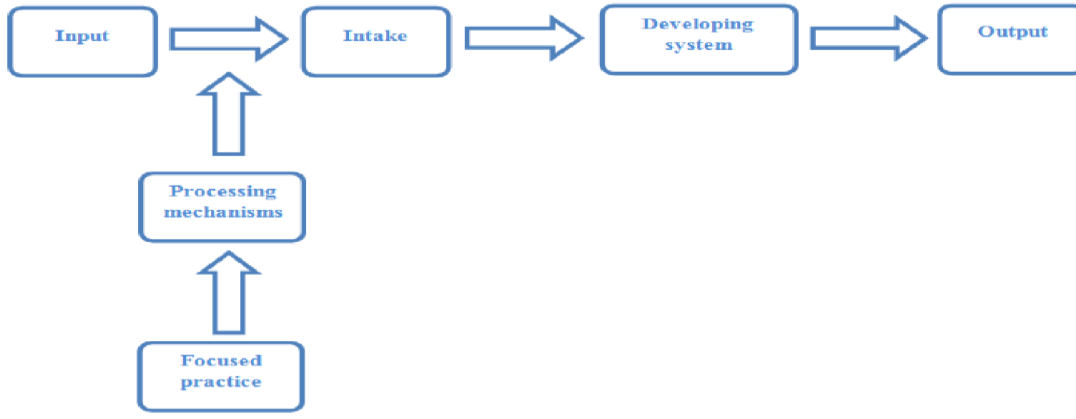

Figure 1. Processing instruction in foreign language teaching (VanPatten, 2004: 26)

Processing instruction includes three main components: explicit information, strategy training, and structured input activities. In explicit information stage, learners are explained rules of the targeted form overtly. In strategy training stage, learners are told not to rely on lexical adverbs (e.g., yesterday, always etc.) but to focus on tense ending (e.g., -ed, -s) to establish correct form-meaning connection. Finally, learners perform a series of structured input activities, which are prepared following the guidelines by Wong (2004a: 38-42):

a) Present one thing at a time,
b) Keep meaning in focus,
c) Move from sentences to connected discourse,
d) Use oral and written input,
e) Have learners do something with the input,
f) Keep learners' processing strategies in mind.

Although the debate has brought about new insights into presenting L2 grammar information, how learners process and parse morphological and syntactic structures still need further research. Given the fact that the earlier research included generally students at tertiary level (e.g., Soruç, 2015; VanPatten and Cadierno, 1993, VanPatten and Uludag, 2011) what, one wonders, would young learners do when processing or fixing their default processing problems at morphemic level (for instance third person singular – s)? To this end, the study reported in this article investigated comparative effectiveness of textual enhancement and processing instruction on the development of English simple present tense form by Turkish young learners of English.

1.2 Previous Research

Three lines of research have investigated the role of input-based instruction on the development of L2 grammar knowledge.

The first line of research was those conducted on the effectiveness of TE. For instance, Doughty's (1991) seminal article released first time the effects of textual enhancement and explicit rule instruction on the acquisition of relative clauses. In the study (n = 20), although TE group scored better on the comprehension test than both rule-oriented and control group, the effect of TE and

of explicit instruction in the rule-oriented group was not that effective on the production tests. The study still showed that "attention to form, either via detailed analysis of structure or highlighting of target language structures in context, promotes acquisition of interlanguage grammar." (p. 431) According to the results of Shook's (1994) study (n = 125), although both instructional groups scored better than the control group, they performed equally well (TE=TE+EI) on form recognition task and fill-in-the-blank production task. Alanen's (1995) study (n = 36) found similarly that EI group and TE+EI group both performed better than TE only group and the control group on sentence completion production task, although learners in TE group favored textual enhancement as an intervention in think-aloud protocols. However, Jourdenais, Ota, Stauffer, Boyson, and Doughty (1995) found no significant difference between TE and control group on the data collected by think-aloud protocols, whereas TE learners produced more than the control group on picture-based writing task. At the turn of the millenium, although Leow's (2001) study found that enhancing input promotes neither "more noticing of targeted forms in the input" (p. 504) nor "superior comprehension" (p. 505), Wong's (2003) study displayed that while simplified input facilitated comprehension, TE generally helped recall "enhanced idea units" (p. 32). More recently, Lee (2007) found that according to the results of form correction and free recall tasks, learners in TE group showed superior performance when learning the targeted passive form, although they were poor at comprehension. Much more recently, Park and Nassif's (2014) study comparing enhanced (TE) and unenhanced text groups in Arabic revealed that although both groups performed similarly on the comprehension task, it was TE group that was able to produce especially the dual pronoun. Finally, according to Jahan and Kormos's (2015) study, while the unenhanced text group comprehended more than TE group, TE group produced more than the unenhanced group.

The second line of research has investigated the role of processing instruction on the development of L2 grammar. VanPatten and Cadierno's (1993) article has acted as a catalyst in the PI literature, and in the years since, a number of relevant studies compared PI to different types of production-based instruction (e.g., Benati, 2005; Cadierno, 1995; Cheng, 2002; Soruç, 2015; VanPatten & Sanz, 1995; VanPatten & Fernandez, 2004; VanPatten & Wong, 2004). Comparing learners in PI group to learners receiving production-based instruction, these studies found similarly that on the comprehension tasks PI made betters gains than the production group, whereas on the production tasks both input group (PI) and output group scored equally well.

The third line of research investigating the role of input-based instruction on the development of L2 grammar knowledge has been those, though few, comparing the groups receiving enhanced texts such as TE and structured input activities such as PI. Lee and Benati's (2007) study for instance showed that PI group receiving structured input activities only and TE group receiving both enhanced texts and structured input activities performed equally well on the comprehension and production tasks. It mainly showed that the improvement was due to the effect of structured input activities only, not because of enhanced text. In addition, Agiasophiti (2011) compared TE only group to PI only, and to TE+PI group. The results showed that TE+PI group made more gains than the other groups. Zanotto's (2015) recent study likewise found that both TE and PI group made significant gains on both sentence-level and discourse-level interpretation tasks.

The reviewed studies above revealed that the debate over whether the greater performance of learners on developing their L2 grammar knowledge is due to enhanced text or because of processing instruction has not abated yet. In order to fix EFL learners' default processing problems and/or to teach difficult L2 grammatical structures in an inductive manner, the research has focused on either the comparison of enhanced texts (TE) to unenhanced text types, or the comparison of PI to output-based instruction, or the comparison of enhanced text type to processing instruction. However, given the fact that the studies focusing on the third line of the research conducted so far are limited, further studies in different contexts are needed. The present study aimed to fill this gap, comparing the effectiveness of enhanced texts (TE) and of PI on the

comprehension, correction, and production of the third person singular form in English simple present tense.

2. METHOD

This study investigates, if any, role of input-based instruction (TE and PI) on the improvement of English simple present tense ending -s by Turkish young EFL learners. To this end, the following research questions were sought:

1) Is there any significant difference between TE and PI groups on the comprehension of third person singular –s measured by grammaticality judgment task?
2) Is there any significant difference between TE and PI groups on the correction of third person singular –s measured by form correction task?
3) Is there any significant difference between TE and PI groups on the production of third person singular –s measured by written production task?

2.1 Setting

The study was carried out at a private secondary school during spring semester of 2015-2016 academic year in Sakarya, Turkey. The school had learners from 6th to 8th grades, for which different English textbooks were selected from internationally known publishing companies. At the time of the study, the learners were getting seven classroom hours of English instruction every week.

2.2 Selection of the Grade and Participants

The study was piloted twice at two state secondary schools prior to the main study. All the instructional and assessment materials were given to both 6th, 7th, and 8th graders, and it was found that 7th grade learners would be the best target population for the study. Therefore, 7th grade learners were conveniently recruited for the initial pool of the main study: TE (n = 21), PI (n = 22). However, this number decreased because some learners (n = 11) either failed to participate the instructions or missed the tests. To ensure that learners started with the same level of knowledge related to the target structure before the instructions and to attribute any increase in the post-test scores 'to the instructional treatments, not to the learners' differential prior knowledge' (Lee and Benati, 2009: 144), other learners (n = 9) who scored better than 60% in the pretest were further removed from the posttest analysis as in earlier research (e.g., Cheng, 2002; Farley, 2001; VanPatten & Cadierno, 1993). Thus, the final N size was 23 for the study: TE (n = 13), PI (n = 10), of whom 4 were female, 19 were male.

2.3 Instructional Materials

Two different instructional packets were prepared prior to instructional activities; both were piloted and revised as well as getting expert opinion.

2.3.1 TE Packet

TE instructional packet consisted of four different reading texts with related comprehension questions, all of which were adopted from the book 'Elementary Stories for Reproduction' published by Oxford University Press. The target form was highlighted through bolding and using a larger font size in all the texts. The aim behind using comprehension questions was to draw students' attention into meaning rather than the targeted form.

Jack is a young sailor. He live**S** in England, but he often go**eS** away with his ship. One summer he come**S** back from a long voyage and find**S** new neighbors near his mother's house. They have a pretty daughter, and Jack soon love**S** her very much. He say**S** to her that his next voyage begin**S** in a few days' time, he love**S** her and want**S** to marry her when he come**S** back.'

1) Why does Jack make long voyages?
2) Where does he live?
3) Why does Jack think about Gloria all the time?

(3 more questions)

Figure 2. Sample textual enhancement activity & comprehension questions

2.3.2 PI Packet

PI packet consisted of ten structured input activities particularly designed for the study considering 'the Primacy of Meaning Principle' and its sub-principles. During the activities, learners were never asked to produce the target form. All the activities were presented both in aural and written way.

Listen to the sentences about two famous people. Choose the person the sentences refer to. Please put a tick (√) for the correct option.

1. _____ _____
2. _____ _____
3. _____ _____

Sentences heard:

He…

1. performed in many concerts.
2. becomes popular through Youtube.
3. plays the guitar.

(7 more items)

Figure 3. Sample aural activity

There are some sentences below about Jerry's past and present life. Read each sentence and decide whether they refer to past or present. Please put a tick (√) for the correct option.

	PAST (Geçmiş)	PRESENT (Şimdiki)
Jerry…		
1. eats cheese.	_____	_____
2. runs fast.	_____	_____
3. played in the garden.	_____	_____

(7 more items)

Figure 4. Sample written activity

2.4 Data Collection Instruments

The study measured learners' improvement using a grammaticality judgment task, a form correction task, and a written production task in the pretest, posttest, and delayed posttest. Both grammaticality judgment and form correction task included 10 target, 10 distractor items, 20 total items in each. On the written production task, learners were asked to produce the targeted structure using 10 different pictures and verbs. To prevent item familiarity in the tests, three different versions of each task were developed for the pretest, posttest, and delayed posttest, and all were counterbalanced as in the earlier research (e.g., Cheng, 2002; Farley & Aslan, 2012; VanPatten & Cadierno, 1993). The learners received first grammaticality judgment task, then form-correction, and finally written production task.

2.5 The Procedure

One week before the instructions started, learners received a background questionnaire, a consent letter, and a pretest. Then, they took two regular classroom hours of instruction in two consecutive days. The number of instructional classes was intentionally kept few as in the literature (e.g., Benati, 2005; Farley, 2001) in order to prevent learners' interaction with each other (Lynch, 1996). In addition, to prevent the possibility of diffusion and/or imitation of the treatments by different teachers (Lynch, 1996), only one teacher (the first author of this article) gave instructions to both groups. When the instructions started, the groups first similarly received an explicit information handout which explains the form in an explicit way with some sample sentences. Differently, however, while TE learners took four manipulated reading texts with enhanced style (e.g., bold, italicized, and colored), PI learners received ten structured input activities in which at no time were they asked to produce the target structure. While performing the activities or reading texts, feedback to both groups was given in an implicit way or by recast. They were not explained the rule in the handout again. Immediately after instructions, a posttest was given to both TE and PI groups to find out whether the instructions improved students' learning. Four weeks after the instructions, in order to measure whether learners still remembered the targeted form in the long run, another version of the tests was conducted as delayed posttest.

2.6 Scoring

The highest score was calculated as 10 for each of the three tasks in the assessment tests, 30 in total. While marking the correct/incorrect items, 1 point was given for the correct answer; 0 for the incorrect. In addition to one rater (the first author), another rater also marked the items in the tests, but as the items were definite, namely whether the form was correctly used or not was evident, there was not conflict between the raters.

2.7 Data Analysis

There were different data analysis stages in the study. First, test versions (version A, B, and C) were piloted at two state schools before the main study in order to find out whether the items measured the targeted form consistently, and according to its results, it was found that internal consistency of the tests or Cronbach's alpha level was found acceptable enough to keep the main study for pre, post and delayed posttest as .83, .92 and .96 respectively. Second, those who scored at and better than 60% as the threshold (e.g., Cheng, 2002) were removed from the raw data and one-way ANOVA was further run for the pretest scores to find out whether the participants started at the same level of knowledge of the targeted form, so that at the end any difference between the instructional groups could be attributed to the instructions given as the treatment. Finally, a repeated measure ANOVA (2x3) was conducted to measure if any differential effects of the two instructional groups on the three tests.

3. RESULTS

In this section, the results of the tasks (grammaticality judgment, form correction, and written production) in the pre/posttests are given respectively.

3.1 The Results for the Grammaticality Judgment Task

The descriptive statistics for GJ task are shown in Table 1 below. When examined in detail, the mean scores display that both instructional groups helped learners comprehend (interpret) the targeted form in their instructional classroom hours as both increased their knowledge from pretest (PI: M=2.70, SD=1.49; TE: M=4.85, SD=2.04) to a greater level in the immediate posttest (PI: M=3.5, SD=2.22; TE: M=4.85, SD=2.27) and in the delayed posttest (PI: M=4.70, SD=2.71; TE: M=6.54, SD=3.05). Although the performance of TE group from pretest to immediate posttest stayed constant, their performance over a four-weeks period was surprisingly high; that is, they were able to judge (un)grammatical sentences in more correct way. As to the learners in PI group, they were able to improve their pretest scores consistently over an immediate and delayed posttest.

Table 1. Mean Scores on Grammaticality Judgment Task

	Intervention group	Mean	Std. Deviation	N
Pretest	PI	2.70	1.494	10
	TE	4.85	2.035	13
	Total	3.91	2.087	23
Post 1	PI	3.50	2.224	10
	TE	4.85	2.267	13
	Total	4.26	2.301	23
Post 2	PI	4.70	2.710	10
	TE	6.54	3.045	13
	Total	5.74	2.988	23

In order to find out the difference between the two instructional groups from pretest to posttests, a mixed between-subjects analysis of variance (ANOVA) analysis was conducted. The results showed that although there was a substantial main effect for time, Wilks Lambda =0.633, F (2, 20) = 5.81, $p < 0.05$, $\eta 2 = 0.367$, as both groups showed a successive increase across the three time periods on test performance, there was no significant interaction between instructional type (whether PI or TE) and time, Wilks Lambda = 0.96, F (2, 20) = 039, p = .682, $\eta 2 = 0.038$ (see figure 5).

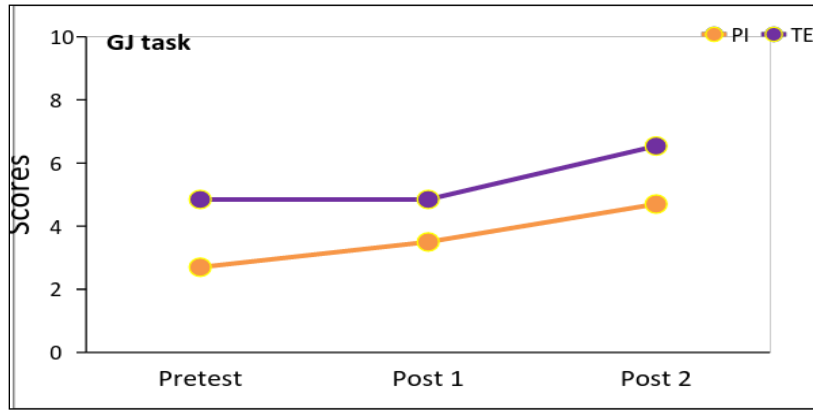

Figure 5. Group x Test interaction on GJT

3.2 The Results for the Form Correction Task

The analysis revealed that the mean pretest scores on FC task are found as M=0.50, SD=1.27 for PI and M=4.00, SD=3.74 for TE as in Table 2 below. However, after receiving the instructions, their scores changed to M=2.30, SD=2.63 and M=3.92, SD=3.57 for PI and TE group respectively and

again four weeks later M=1.00, SD=2.16 and M=3.54, SD=4.01 for PI and TE group respectively. The mean scores show that while PI learners increased their pretest scores after the instruction, TE learners reduced their gains slightly. However, in the delayed posttest, both groups could not retain their gained knowledge related to the targeted form and thus both could not correct the ungrammatical sentences.

Table 2. Mean Scores on Form Correction Task

	Intervention group	Mean	Std. Deviation	N
Pretest	PI	.50	1.269	10
	TE	4.00	3.742	13
	Total	2.48	3.383	23
Post 1	PI	2.30	2.627	10
	TE	3.92	3.570	13
	Total	3.22	3.233	23
Post 2	PI	1.00	2.160	10
	TE	3.54	4.013	13
	Total	2.43	3.514	23

In order to determine whether the treatment type leads to a significant improvement the mixed between-subjects analysis of variance was conducted for each of the two groups on learners' scores on FC Task across three time periods. The analysis found no substantial main effect for time, Wilks Lambda = 0.75, F (2. 20) = 3.27, p =.059, η2 = 0.247 as well as finding no significant interaction between instructional type and time, Wilks Lambda = 0.77, F (2. 20) = 3.02, p = 0.71 and η2= 0. 232 (see figure 6).

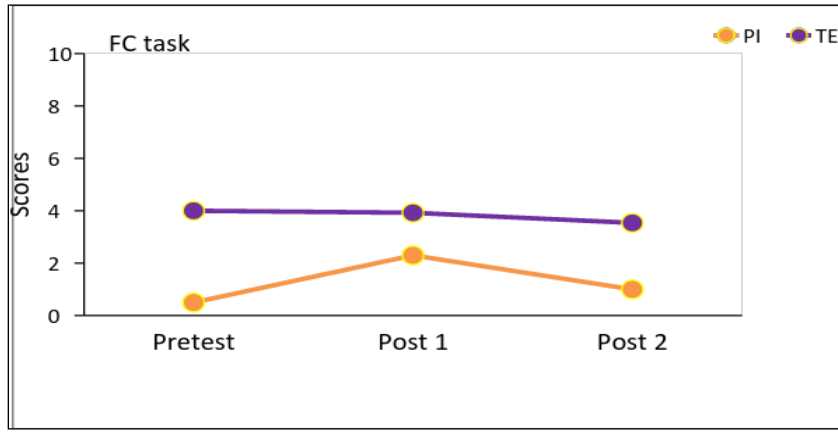

Figure 6. Group x Test interaction on FCT

3.3 The Results for the Written Production Task

The analysis revealed that the mean pretest scores on WP task are found as M=3.00, SD=4.62 for PI and M=0.77, SD=2.77 for TE as in Table 3 below. However, after receiving the treatment, their scores changed to M=2.00, SD=4.22 and M=3.00SD=4.69 for PI and TE group respectively and again four weeks later M=1.90, SD=4.01 and M=2.23, SD=4.25 for PI and TE group respectively. The mean scores show first of all that while PI reduced pretest scores after the instruction on the immediate posttest, TE increased; secondly it was found that as with form correction task, both groups could not retain their knowledge related to the targeted from over time by the delayed posttest.

Table 3. Mean Scores on Written Production Task

	Intervention group	Mean	Std. Deviation	N
Pretest	PI	3.00	4.619	10
	TE	.77	2.774	13
	Total	1.74	3.768	23
Post 1	PI	2.00	4.216	10
	TE	3.00	4.690	13
	Total	2.57	4.419	23
Post 2	PI	1.90	4.012	10
	TE	2.23	4.246	13
	Total	2.09	4.055	23

In order to determine whether the treatment type leads to a significant improvement the mixed between-subjects analysis of variance was conducted for each of the two groups on learners' scores on WP Task across three time periods. As with form correction task results, on the written production task no substantial main effect was found for time, Wilks Lambda = 0.97, *F* (2. 20) = .354, p = .173, η2 = 0.034. Neither was for the interaction between instructional type and time, Wilks Lambda = 0.84, *F* (2, 20) = 1.914, p = 0.173 and η2= 0. 161 (see figure 7).

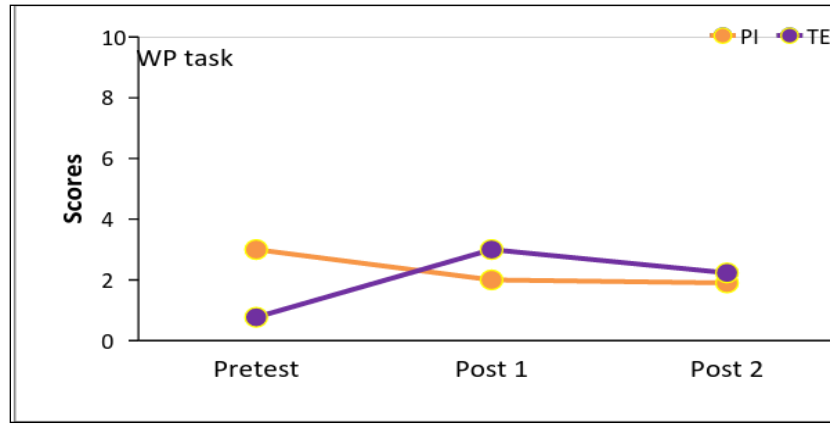

Figure 7. Group x Test interaction on WP Task

4. DISCUSSION

This study investigated the effectiveness of two input-based instructions – TE and PI – on comprehension (first research question), correction (second research question), and production (third research question) of the third person singular form in English simple present tense.

Based on previous research findings in the literature (e.g., Zanotto, 2015), for the first research question, it was hypothesized that PI group would perform better than TE group (PI > TE) on the grammaticality judgment task. However, this hypothesis was not confirmed (PI=TE). The findings from the grammaticality judgment task indicated that although both groups increased their performance significantly over time from pretest to posttests, the difference was not statistically meaningful. In fact, the consistent increase of PI or TE learners on the tests could be explained by the effectiveness of the two input-based instructions as found by previous PI studies. For example, VanPatten and Cadierno (1993: 54) argued that "instruction as a direct intervention on a learner's strategies in input processing should have a significant effect on the learner's developing system". Likewise, according to Cheng's (2002) results, given that learners in PI made incremental gains on the interpretation task is due to the fact that PI helps students "make correct form-meaning

mappings and in restructuring their mental representation of target forms." (p. 317). Similarly, Shook's (1994) study on Spanish present perfect tense and relative pronouns and Alanen's (1995) study on locative suffixes and consonant changes showed that learners receiving instructions based on TE were found to increase their interpretation scores in the tests, especially because of the fact that TE instruction helped "learners' recall and use of targets" (p. 259). The study reported in this article revealed that both types of input-based instruction helped learners to interpret L2 grammar knowledge and to 'notice' the target form in the input. These findings can be thought related to Schmidt's "Noticing Hypothesis" (1990), according to which noticing the structure in L2 is "the necessary and sufficient condition for converting input into intake" (p. 129).

For the second (correction) and third (production) research questions, based on previous research findings in the literature, it was hypothesized that PI group would perform better than TE group (PI > TE) since most of the studies conducted on PI (e.g., Cheng, 2002; VanPatten & Cadierno, 1993; VanPatten & Uludağ, 2011) yielded positive results regarding that PI facilitated learners' production performance whereas some studies conducted on TE (e.g., Alanen, 1995; Izumi, 2002; Leow et al., 2003; Wong, 2003) failed to prove that TE helped production of the target form though it facilitated noticing. Both hypotheses were not confirmed, though. Although both groups according to their mean scores seemed to have an increase from pretest to immediate posttest (PI on form correction; TE on written production), they both likewise reduced their gains over time by the delayed posttest. This result shows that input-based instructions might be sometimes ineffective for some notoriously difficult structures (e.g., third person singular form) especially when teaching to young learners. This outcome lends some support to the role of output (Swain, 1995), by which when learners produce, they 'create linguistic form and meaning and in so doing, discover what they can and cannot do' (p. 127). Swain (2000) argues that the more learners produce the more they process the form. According to Izumi (2002), the output may help learners engage in processing the form more cognitively.

The fact that the results found neither substantial main effect for time, nor significant difference between the two groups should not mean that input-based instructions do not help learners to produce the form. Therefore, the results of this study should be carefully considered (the profile of the participants and fewer number), because the role of input, specifically the importance of structured input, has been established fact in the literature for more than three decades (VanPatten & Cadierno, 1993; VanPatten, 2015). The literature showed clearly that when input is manipulated or when processing mechanisms are strengthened by structured input activities, learners have "double bonus" (VanPatten & Cadierno, 1993: 54). That is, when learners practice structured input activities, not only can they interpret the targeted form but they can also produce it. This fact has been similarly found in Soruç's (2015) study, one of the few studies comparing PI to production-based instruction in Turkish context. Likewise, nor should the role of TE be downgraded, because, for instance, Park and Nassif (2014), and Jahan and Kormos (2015) found potential effectiveness of TE on production tasks. Although the study reported in this article did not find any significant improvement on the production tasks, mostly because of the fact that the participants were at young age and their number was not large enough, according to Jourdenais et al. (1995: 183) when texts are enhanced it "promotes noticing of target L2 form and has an effect on learners' subsequent output." As noted above, the results of this study especially the effects of the instructional groups on the production tasks should be carefully considered.

5. IMPLICATIONS

The results of this study showed that although a significant main effect was found for time for both instructional groups on the grammaticality judgment task only, the two groups did not in fact show similar incremental increase on both form correction and production tasks. Nevertheless, the following implications can be listed for EFL teachers in general, and those teaching in Turkey in particular:

- TE is an intervention that most teachers unconsciously benefit in their classes, for instance by means of using different colors, underlying the target forms etc. However, it could be more beneficial if they exploit enhanced texts actively in their classes.
- Both types of instructions could be integrated into curriculum when the main objective is to help learners comprehend a target form in a meaningful context.
- Although the results of this study showed that input-based instructions did not help learners produce or correct the target form, this result should be considered given the results of many PI studies in the literature (e.g., Benati, 2005; Soruç, 2015) for the superior effect of PI learners on the production tasks. Therefore, teachers can also use structured input activities to help learners produce any form that their learners have default processing.
- Despite the limitations of the study, it showed that both groups scored better on the comprehension task. Therefore, PI or TE could be an effective "intervention" to foster form-meaning connection in language classrooms.

6. CONCLUSION

The current study researched any comparative effects of TE and PI in a Turkish EFL context especially recruiting young learners as the target population. 23 secondary school learners received two different types of input-based instructional activities in two regular intact classroom hours. The results showed that although both TE and PI contributed to learners' comprehension of the targeted structure, learners in both groups failed to improve their production performance. The study however needs replicating. Although the study involved young learners, who were in fact a difficult group to collect data, the data came from a small number of learners and a few instructional classroom hours. Therefore, it is difficult to generalize the results to other contexts. Future studies should compare the instructional groups (with higher number of students) receiving TE+PI to TE only and to PI only.

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