

**L2 Learners' Acquisition of English Nominal Clauses: Effects of  
Textual Enhancement, Metalinguistic Explanation, and Self-  
Regulation\***

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**Abstract**

This study aimed to investigate the impact of textual enhancement and metalinguistic explanation as focus-on-form tasks tending to encourage the acquisition of nominal clauses (NCs) in English. It explored (a) whether textual enhancement and metalinguistic explanation would promote and enhance the knowledge of NCs, (b) whether these two tasks would differ in terms of enhancing learners' knowledge of nominal clauses, and (c) whether learners' use of self-regulatory capacity for grammar acquisition would have differential effects on textual enhancement and explicit explanation groups. A test of recognizing noun clauses and a test of producing combined sentences were used as both the pretest and the posttest to measure the achievement of first-year undergraduate university students in four intact classes. A grammar self-regulation questionnaire was also administered to measure the use of self-regulatory capacity. The findings demonstrated that both textual enhancement and explicit instruction contributed to developing grammatical knowledge of the learners at both recognition and production level. The results also showed that the learners who received textual enhancement used their grammar self-regulatory capacity more effectively in developing their receptive knowledge of NCs. It can be concluded that textual enhancement, which provides learners with less explicit instruction, pushes them to use their self-regulatory capacity more effectively in improving receptive knowledge of grammar.

**Keywords:** textual enhancement; metalinguistic explanation; self-regulation; receptive knowledge; productive knowledge; nominal clauses

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### **Introduction**

Although there are various theoretical and empirical perspectives on the nature of different types of form-focused instruction, including textually enhanced input instruction and metalinguistic, explicit instruction, the importance of their roles in second language acquisition (SLA) cannot be disputed (Nassaji & Fotos, 2011). Textual enhancement is an input approach to SLA that aims to raise learners' attention to linguistic forms by rendering input perceptually more salient. To arrive at its objective, the approach concentrates on spotlighting specific properties of written texts bolding, underlining, and coloring or by utilizing acoustic tools of extended stress or intended repetition of selected chunks of oral texts. However, the investigations, attempting to analyze how significant the role of textual enhancement can be have displayed varying results, ranging from positive and facilitative effects (e.g. Alanen, 1995; Jourdenais, Ota, Stauffer, Boyson, & Doughty, 1995; Shook, 1994; Trahey & White, 1993; VanPatten & Leiser, 2006) to limited effects (e.g. Jabbarpoor & Tajeddin, 2013; Nassaji & Fotos, 2004) and even no effects (e.g. Kirschner, Sweller, & Clark, 2006). As Han, Park, and Combs (2008) noted, part of the reason for these mixed results is methodological differences in research, which limits the generalizability of the findings. Moreover, variation in the amount and effectiveness of FonF may be due to "the type of FonF, the nature of the linguistic target, learners' linguistic ability, the ways in which FonF is provided, and various individual learner differences" (Nassaji, 2013, p. 836).

Form-focused instruction (FFI) is defined as a meaning-oriented instructional treatment that "consists of an occasional shift of attention to linguistic code features – by the teacher and for one or more students – triggered by perceived problems with comprehension or production" (Long & Robinson, 1998, p. 23). In rather simpler terms, FFI involves any instructional activity that is used to draw the learner's attention to language forms when they appear where the main focus is on meaning and communicative properties (Long, 1991). While textual enhancement is regarded as the least explicit input-based FFI,

metalinguistic explanation (Ellis, 2008) is the most explicit type of input-based FonF instruction. According to Housen and Pierrard (2006), if the approach tends to *direct* learners' attention toward the form, it can be described as explicit instruction of grammar and if it attempts to *attract* the attention of learners, it can be served as implicit instruction of grammar. With respect to these views, this study aims to investigate the effectiveness of textual enhancement in comparison with that of explicit instruction in order to contribute to the previous research on implicit and explicit instruction.

### **Literature Review**

#### **Textual Enhancement and Metalinguistic Explanation**

Noticing Hypothesis (Schmidt, 1990, 1993, 2001, 2010) has inspired the studies focused on enhanced input. Schmidt (1990, 1993) and Tomlin and Villa (1994) argue that Noticing Hypothesis has paved the way for the studies which examined a variety of FonF enhanced input. Schmidt refers to the beginning stage in learning as noticing, for internalization does not seem to occur unless learners distinguish the contents of input. The portion of the input realized by the learner can be called intake (Schmidt, 1990). Based on Schmidt's (1990) hypothesis, textual enhancement is considered an "implicit and unobtrusive way" of directing learners' attention to targeted forms (Nassaji & Fotos, 2011, p. 41). Learners are first encouraged to attend to the text meaning and then subconsciously to attend to building connections between form and meaning (Ellis, 2008).

The FonF literature suggests that learners can be more encouraged to attend to the form when textual input is enhanced by making use of various enhancing devices involving bolding, coloring, highlighting, and underlining (Doughty & Williams, 1998; Long, 1991; Long & Robinson, 1998; Wong, 2005). The noticed forms may then be processed for further learning-(Robinson, 1995, 1997; Schmidt, 1993, 2001). As claimed by Izumi (2002) and Lee (2007), textual enhancement hints make the input noticeably salient, which may eventuate in learners' further notice. This might then be the impetus for

further improvement in processing input (Doughty, 2003; Gass & Mackey, 2002).

A number of studies have investigated the effectiveness of textual enhancement on a single grammatical feature (Izumi, 2002; Leow, 2001; Simard, 2009; Wong, 2003) whereas some other studies addressed two features (Alanen, 1995; Leow et al., 2003). A certain number of factors, including level of complexity, degree of internalization, meaning component, interactivity, frequency, and comprehensibility, were involved in the selection of these grammatical features (Han et al., 2008). The mixed results obtained from these studies could be due to the diversity of selected grammatical forms which might have required various levels of processing by learners (Park, 2004). Meanwhile, the findings on the length and intensity of exposure seem to be contradictory (Alanen, 1995; Jourdenais et al., 1995; Leow, Egi, Nuevo, & Tsai, 2003; Overstreet, 1998; Wong, 2003). The variations in the methodological considerations such as the administration of a delayed posttest in a very few studies except those by White (1998) and Leow (2001) and the inclusion of a control group only by Izumi (2002) and Simard (2009) might also have increased the diversity in the results of previous research. Simard (2009) asserts that the selected grammatical structures, the kind of language, the tools of assessment, and the constructs under investigation in the previous studies are considerably different.

Many studies have investigated the effectiveness of metalinguistic explanation in a combination with input processing or meaningful production tasks (DeKeyser, 1995; Ellis, Loewen, & Erlam, 2006; Fernández, 2008; Henry, Culman, & VanPatten, 2009; Morgan-Short, Sanz, Steinhauer, & Ullman, 2010; VanPatten & Oikkenon, 1996). Some studies reporting an advantage for explicit instruction (e.g. DeKeyser 1995; Robinson 1996) simply provided metalinguistic information about the target structure together with examples. Others (De Graaff, 1997) provided both metalinguistic information and various kinds of practice exercises. Most of the studies investigated explicit instruction while providing metalinguistic information before the

lesson but one study (Ellis, Loewen, & Erlam, 2006) examined the effects of explicit instruction while providing metalinguistic information after the lesson. A number of studies, however, reported an advantage for implicit instruction (e.g. Morgan-Short et al. 2010; Doughty 1991). The reason why implicit instruction received more support in these studies may be that learners were pushed to process the input meaningfully than structurally.

### **Self-regulation**

Zimmerman and Risemberg (1997) and Zimmerman (2001) have defined self-regulation as learners' specific personal beliefs and experiences, their manipulation of particular learning processes, and their active use of strategies that help them regulate the extent of their improvement. More recently, Zimmerman (2008) has further highlighted his perspective that the notion of self-regulation of academic learning is a construct with numerous facets on educational grounds and in the case of being brought into practice by learners, it may result in higher achievement.

Tseng, Dörnyei, and Schmitt's (2006) scale of self-regulatory capacity in vocabulary learning is an instrument which introduces a new approach to assessing strategic grammar learning. Dörnyei (2005) argues, however, that the scale of self-regulatory capacity in vocabulary learning can serve as a model for the assessment of other aspects of strategic learning. Thus, this assessment model of self-regulatory capacity in vocabulary learning has been converted into a measurement model to assess self-regulatory capacity in grammar learning to be adjusted to the purpose of the study. Tseng et al. (2006) argue that what appears to be of primary importance in strategy-based learning is the innovation learners use to elevate their learning level rather than the yin and yang of the particular strategies they employ. Chamot and Rubin (1994) maintain that a good language learner should be described in terms of the ability to understand and develop a personal set of effective strategies not just through a single set of strategies. In other words, the essential aspect of enhancing learners' strategic learning capacity is to set the self-regulatory process into motion rather than attempting to

instruct a set of strategies. Tseng et al. (2006) explain that providing learners with the instruction of a collection of learning strategies appears to be a necessary step in the learning how-to-learn process; however, it works effectively only when it is supported by an adequate foundation of self-regulatory capacity in the learners.

As the above review shows, many studies (e.g. Fotos, 1994; Izumi, 2002; Trahey & White, 1993; White, 1998) have investigated the effects of textual enhancement through different types of enhanced input to draw learners' attention to grammar. However, research on enhanced input has yielded mixed results. Moreover, explicit instruction characterized by the provision of metalinguistic explanations is recommended as a task for the instruction of grammatical features (Ellis, 2008). Against this backdrop, the present study built on the previous research to investigate the effects of enhanced input and explicit instruction on the acquisition of English nominal clauses. Additionally, the study sought to examine the extent to which learners would draw on their grammar self-regulatory capacity in each of the given instructional conditions. The selection of nominal clauses as target structures is another feature of the study. A major reason for this selection is that there exists a functional difference between NCs and adjective or adverb clauses since NCs serve as a crucial constituent in the main clauses while adjective and adverbial clauses, although dependent in meaning, are structurally independent of main clauses (Doughty, 1988, 1991; Izumi, 2002). In effect, independent clauses, despite what their names suggest, bear pivotal dependency on NCs both in form and meaning. In view of these purposes, the research questions were formulated as indicated below:

1. Do textual enhancement and explicit instruction significantly affect EFL learners' knowledge of noun-clause comprehension and production?
2. Are there any significant differences between textual enhancement and explicit instruction groups in their knowledge of noun-clause comprehension and production?

3. Does grammatical self-regulation significantly affect EFL learners' acquisition of noun clauses through textual enhancement and explicit instruction?

## **Method**

### **Participants**

First-semester undergraduate university students majoring in English were selected as the participants for the present study. The selection of the participants was on the basis of a proficiency test, a multiple-choice recognition test, and a production test of sentence combination. Both recognition and production tests were aimed at eliciting the participants' knowledge of NCs. A total of 98 students participated in the experiment. There were 34 participants in the textual enhancement instruction group, 34 in the explicit instruction group, and 30 in the control group. Participants were all native speakers of Persian and were between 19 to 27 years of age.

### **Instrumentation and Treatment**

Before treatment, the Oxford Placement Test, a test of limited production, and a test of recognition were taken by the participants. As argued by Purpura (2004), the Oxford Placement Test was developed to evaluate the proficiency level of second or foreign language learners from both structural and pragmatic aspects and to assess their capacity for reading, comprehending, and communicating meaning on the basis of their knowledge. The limited production test was a sentence-combining test concerned with assessing productive grammatical knowledge of the learners. After the treatment stage, the same limited production test and the NC recognition test, used as pretests, were administered as posttests with reshuffled items to assess the learners' achievement in their knowledge of English NCs. Doughty's (1991) test was the source of adaptation for the 20-item limited production test. The test instructions asked the participants to combine two sentences in each test item by recognizing the underlined words in the first sentence. A test of recognition consisting of 30 items aimed at assessing the receptive knowledge of the participants on the six functions of NCs under investigation (Leow, 2001; Leow & Morgan-Short, 2004).

Dörnyei (2005) argues that the scale of self-regulatory capacity in vocabulary learning can serve as a model for the assessment of other aspects of strategic learning as well. Thus, in the present study, this assessment model of self-regulatory capacity in vocabulary learning into a measurement model to assess self-regulatory capacity in grammar learning. To do so, the content of each item on the questionnaire was revised to focus on eliciting information on the strategies learners use in learning L2 grammar. This self-report questionnaire consisted of 20 items measuring five broad aspects of self-regulation in grammar learning: the control of commitment, metacognition, satiation, emotion, and environment. There was no “right” or “wrong” answer. The answers to each item were on a Likert scale ranging from “*strongly agree*” to “*strongly disagree*” (see the appendix). Prior to pretesting, the validity of the questionnaire was examined by administering it to a group of 12 participants belonging to the same population to see whether they had any difficulty in comprehending the questionnaire items. The questionnaire was also analyzed by three experts to be checked for the wording and comprehensibility of the items. As a result, the wording of 13 items underwent some modifications before the questionnaire was considered for piloting. Two sample items from the questionnaire are given below:

*Item #13: When I get anxious about grammar learning, I know how to reduce my anxiety.*

*Item #20: When I study grammar, I look for a good learning environment.*

The present study focused on the instruction of NCs, subordinate clauses functioning as subject, direct object, object of preposition, a direct object in direct and indirect reported speech, adjective complement, and subject complement as a part of main clauses. The following examples include NCs that represent the above functions, respectively:

1. *Who has composed this poem is also popular for his short stories.*
2. *I can hardly understand what he is talking about.*



3. *Your teacher is happy that you are furthering your study of grammar.*
4. *Everything depends on whether we can finance the project.*
5. *The promising issue is that farmers will have a good harvest this year.*
6. *He said to his wife, "you can buy a new car."*  
*"You can buy a new car." he said to his wife.*  
*He said to his wife that she could buy a new car.*

The learners in the three groups were exposed to two input texts in every session of instruction. Eight texts with typical social topics were presented in four sessions. The texts contained NCs with various grammatical functions. NCs spread in each text with four to six functions each with random frequency rate. To show how the learners process the meaning load following Izumi (2002), the texts serving as input comprised of some semantically coherent sections of four to nine sentences each. To confirm the conformity between the texts' difficulty level and that of the learners' proficiency level, the Flesch Reading Ease Scale was used to determine the average readability index for the texts, which was estimated to be 82.5. The range of readability indices indicated that the texts were suited for lower intermediate learners.

***Treatment in the Enhanced Input Group.*** Participants in the enhanced input group were exposed to the enhanced texts in the input exposure phase. They were directed to attend to the bold, underlined parts of the texts to examine how NCs were formed and how they contributed to the comprehension of the text (see sample 1). The main reason to choose bolding and underlining as typographical enhancement techniques came from the findings of Leow (2001), Simard (2009), Farahani and Sarkhosh (2012), and LaBrozzi (2016) concerning differential effects of textual enhancement techniques. Then, in the post-exposure phase, following the collection of the reading texts, the learners were asked to answer multiple-choice comprehension questions (see sample 2) in which the choices were flooded with NCs playing the functions primarily focused upon in the present study (Appendix III).

**Sample 1: A Reading Text with Enhanced NCs**

“**Something is very wrong**,” says the detective. “**I know!**” says Ms. Gervis. “**It is wrong that someone has stolen from me!**” The detective looks around Ms. Gervis’ apartment. “**That is not what I am talking about, ma’am. What is wrong** is that I do not understand **how the robber got in and out**.” Ms. Gervis and the detective stand in silence. Ms. Gervis’ eyes are full of tears, and her hands are shaking.

**Sample 2: Reading Comprehension Questions**

*Choose the correct answer to complete each sentence according to the passage.*

1. Near the beginning of the story, since Ms. Gervis’ eyes are full of tears and her hands are shaking. We can conclude  
.....
  - a. that she probably feels upset
  - b. that she seems to be tired
  - c. when she feels hungry
  - d. why she is confused

***Treatment in the Explicit Group.*** The explicit group was also exposed to the same reading texts in the input exposure phase as was the textual enhancement group. The only difference was that the texts contained no enhancement. Like the other group, participants in the explicit group were involved in the same comprehension tasks in the post-exposure phase. Then, they were given metalinguistic information about the NCs in the noun phrases. Finally, they performed exercises to reinforce the metalinguistic information (Sample 3).

**Sample 3: Proactive/Deductive Explicit Tasks**

A. *Underline the noun clauses in the following sentences. Write the function of the noun clause in each sentence in the space provided.*

**Examples:**

What the manager couldn't understand was why most of the clerks were absent.  
subject

1. He asked whether the servant had polished his shoes.

.....

***Exposure in the Control Group.*** The control group was exposed to the same non-enhanced treatment texts and the same comprehension questions in the same order as were the experimental groups. The participants in the control group were only instructed how to accomplish their reading tasks in both input exposure and post-exposure phases without receiving metalinguistic information.

#### **Data Collection and Analysis**

To carry out this study, a pretest-treatment-posttest design was adopted. The data were collected within seven 90-minute sessions where two experimental groups and a control group participated. Two sessions were allotted for the proficiency test and the pretests, four sessions for the treatment, and one for the posttests. The Oxford Placement Test was administered to homogenize the participants in the first session. A multiple-choice recognition test and a sentence combination test were given in the second session to complete the pretest stage. The time limitation for the completion of the recognition test was 20 minutes and for the sentence combination test 30 minutes on the basis of the findings in the pilot study.

Both the recognition and controlled production tests functioned to control the participants' prior familiarity with the target structures. The participants who scored above the expected chance score were excluded from the study. The chance score was calculated using N/A formula (i.e., the total number of the items divided by the number of the alternatives). Since there were 30 target items on the recognition test and 20 target items on the production test and each item had four alternatives, the expected chance score was found to be 8 for the recognition test and 5 for the production test. Obviously, the four alternatives for the production test were acceptable answers expected to be produced by the participants.

Four separate dependent samples t-tests were used to analyze the data gathered through the pretest and posttest stages to answer the first

research question concerned with determining the significance of the difference between the pretest and posttest means of each of the three groups in view of the participants' achievement in both the receptive and productive knowledge of grammar. To deal with the second research question, the data collected from the posttests were analyzed using a one-way ANOVA to determine the significance of the difference between the posttest means of the three groups. To address the third research question, the data collected from the questionnaire on the participants' grammatical self-regulatory capacity across the three groups in the posttest phase were analyzed through three independent samples t-tests to compare the high/low grammatical self-regulatory capacity of participants in each group and their performance on the receptive and productive posttests.

### Results and Discussion

The first research question addressed the impact of the textual enhancement and explicit instruction on the EFL learners' receptive and productive knowledge of NCs. To answer the question, a comparison was made between the results of the pretest and posttest of the two experimental groups and the control group. Table 1 shows the descriptive statistics for the three groups.

**Table 1.** Descriptive statistics for the three groups on recognition and production NC tests

	N	Mean	SD	Std. Error
<b>Pair 1</b> EI Recognition Pretest	34	5.82	2.36	.40
EI Recognition Posttest		18.65	2.42	.41
<b>Pair 2</b> TE Recognition Pretest	34	6.15	2.12	.36
TE Recognition Posttest		19.12	2.45	.42
<b>Pair 3</b> CON Recognition Pretest	30	6.06	1.89	.34
CON Recognition Posttest		17.53	3.18	.58
<b>Pair 4</b> EI Production Pretest	34	3.50	1.28	.22
EI Production Posttest		13.29	2.25	.38
<b>Pair 5</b> TE Production Pretest	34	3.06	1.34	.23
TE Production Posttest		12.71	2.03	.35
<b>Pair 6</b> CON Production Pretest	30	3.56	1.16	.21
CON Production Posttest		11.96	1.88	.34

*Note: TE: textual enhancement; EI: explicit instruction; CON: control*

As the table shows, the mean column reveals that the participants' posttest mean scores in the receptive and productive NC posttest in the two experimental groups and the control group were far higher than their mean scores on the pretest. To determine whether the difference between the pretest and posttest mean scores were statistically significant, a paired sample t-test analysis was conducted. The results indicate that the mean differences between the pre-test and post-test for the three groups were statistically significant at the 0.05 level (Table 2).

**Table 2.** Paired samples t-tests for the three groups on recognition and production NC tests

		Mean	t	df	Sig. (2-tailed)
<b>Pair 1</b>	EI Recognition Pretest/EI Recognition Posttest	12.82	48.96	33	.000
<b>Pair 2</b>	TE Recognition Pretest/TE Recognition Posttest	12.97	29.77	33	.000
<b>Pair 3</b>	CON Recognition Pretest/CON Recognition Posttest	11.46	23.04	29	.000
<b>Pair 4</b>	EI Production Pretest/EI Production Posttest	9.79	30.78	33	.000
<b>Pair 5</b>	TE Production Pretest/TE Production Posttest	9.64	34.10	33	.000
<b>Pair 6</b>	CON Production Pretest/CON Production Posttest	8.40	32.76	29	.000

Therefore, the results clearly indicate that the two instructional options, serving as FFI approaches to SLA, helped the participants effectively improve their receptive and productive grammar knowledge. It was also the case for the control group.

The second research question was aimed at investigating differences in the learners' receptive and productive knowledge of nominal clauses across the experimental and control group. To address the question, a one-way ANOVA was employed to compare the differences across the three groups.

Examining the mean column in Table 3 shows that the recognition posttest mean score of the textual enhancement group ( $M = 19.11$ ) was higher than both the recognition posttest mean scores of the explicit instruction group ( $M = 18.64$ ) and that of the control group ( $M = 17.53$ ). This suggests that the participants in textual enhancement and explicit instruction conditions outperformed the participants in control group on the recognition posttest. The mean column in Table 3 also shows that the production posttest mean of the explicit instruction group ( $M = 13.29$ ) was higher than the means of both the textual enhancement group ( $M = 12.70$ ) and the control group ( $M = 11.96$ ). The means indicates that the participants receiving explicit instruction and those receiving textual enhancement performed better on the production posttest than the participants in the control group.

**Table 3.** Descriptive statistics for the three groups' recognition and production NC posttest

	<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>Std. Error</b>
<b>EI Recognition Posttest</b>	34	18.64	2.42	.41
<b>TE Recognition Posttest</b>	34	19.11	2.45	.42
<b>CON Recognition Posttest</b>	30	17.53	3.18	.58
<b>EI Production Posttest</b>	34	13.29	2.24	.38
<b>TE Production Posttest</b>	34	12.70	2.03	.34
<b>CON Production Posttest</b>	30	11.96	1.88	.34

These differences were also found to be statistically significant on both recognition and production posttests when analyzed using ANOVA procedures:  $F(2, 95) = 8.517, p = 0.000$  and  $F(2, 95) = 15.106, p = 0.000$ , respectively.

A Tukey's post hoc analysis was also conducted to perform pairwise comparisons. Post hoc results revealed that pairwise comparisons did not differ significantly in terms of either the recognition or the production posttest results at the 0.05 level: EI (recognition) – TE ( $p = 0.946$ ), EI (recognition) – CON group ( $p = 0.436$ ), TE (recognition) – CON group ( $p = 0.116$ ), EI (production) – TE ( $p = 0.721$ ), EI

(production) – CON group ( $p = 0.053$ ), and TE (production) – CON group ( $p = 0.549$ ).

The third research question explored whether grammatical self-regulatory capacity, as a learner variable, would significantly affect the learners' acquisition of nominal clauses in the two experimental groups and the control groups. Since each group was divided into two independent high and low self-regulated subgroups on the basis of the mean scores obtained from their performance on the self-regulation capacity questionnaire, three independent samples t-tests were conducted. As Table 4 shows, the mean scores of the highly self-regulated subgroup in the textual enhancement group on the recognition posttest ( $M = 19.86$ ) and the production posttest ( $M = 13.18$ ) were higher than those of the low self-regulated subgroup.

**Table 4.** Descriptive statistics for the textual enhancement subgroups' self-regulation capacity

<b>TE Self-regulation</b>	<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>Std. Error</b>
<b>TE Recognition Posttest</b>	12	17.75	2.49	.71
Low	22	19.86	2.14	.45
High				
<b>TE Production Posttest</b>	12	11.83	2.29	.66
Low	22	13.18	1.76	.37
High				

The results of the t-test analysis confirmed that the difference was statistically significant only in the recognition posttest ( $t(32) = 2.595$ ,  $p = 0.014$ ). To conclude, in the textual enhancement group, self-regulatory capacity functioned more effectively in developing the receptive rather than productive knowledge of grammar.

In the explicit instruction group, the examination of the means showed that the mean scores of high self-regulated participants on the recognition posttest ( $M = 19.00$ ) and the production posttest ( $M = 13.67$ ) were higher than the mean scores of low self-regulated participants (Table 5).

**Table 5.** Descriptive statistics for the explicit instruction subgroups' self-regulation capacity

<b>CON: Self-regulation</b>		<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>Std. Error</b>
<b>CON Recognition Posttest</b>	Low	20	16.50	2.91	.65
	High	10	19.60	2.75	.87
<b>CON Production Posttest</b>	Low	20	11.55	1.46	.32
	High	10	12.80	2.39	.75
<b>EI/Self-regulation</b>		<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>Std. Error</b>
<b>EI Recognition posttest</b>		13	18.08	2.53	.70
		21	19.00	2.34	.51
High					
<b>EI Production Posttest</b>		13	12.69	2.52	.70
		21	13.67	2.03	.44
Low					
High					

In spite of the differences between the mean scores, the results of the t-test analysis revealed that these differences were not statistically significant in the recognition posttest ( $t(32) = 1.082, p = 0.287$ ) and the production posttest ( $t(32) = 1.237, p = 0.225$ ). Therefore, being either highly or lowly self-regulated did not significantly affect learners' development in the acquisition of nominal clauses in the context of explicit instruction.

In the control group, the descriptive data (Table 6) showed that the highly self-regulated subgroup performed better on the recognition posttest ( $M = 19.00$ ) and production posttest ( $M = 13.67$ ).

**Table 6.** Descriptive statistics for the control group's self-regulation capacity

Despite the variations in the mean scores, the results of the t-test analysis demonstrated that the difference was not statistically significant in the production posttest ( $t(28) = 1.775, p = 0.087$ ) but reached a significant level in the recognition posttest ( $t(28) = 2.796, p = 0.009$ ), with a 95% level of confidence. Accordingly, higher self-regulatory capacity for grammar was more effective in the



improvement of the receptive grammar knowledge than the productive grammar knowledge for the learners in the control group.

In this study, the first research question addressed the effect of the textual enhancement, explicit instruction, and conventional instruction on EFL learners' receptive and productive knowledge of NCs. The results of the t-test analysis demonstrated that the mean differences between the pretest and posttest for the three groups were statistically significant. Therefore, the results clearly indicate that textual enhancement and explicit instruction, serving as FFI approaches to L2 acquisition, as well as the conventional approach to grammar instruction in the control group are effective in improving learners' receptive and productive grammatical acquisition. These findings further strengthen the findings of Simard (2009), who examined the impact of different combinations of textual enhancement techniques on learning grammatical structures and found that textual enhancement had a positive effect on learning through noticing. The findings of the present study are also in line with those of Alanen (1995), Trahey and White (1993), and VanPatten and Leiser (2006), who found textual enhancement to be effective in developing L2 learners' grammatical knowledge. Moreover, the results are also in accord with those of Erlam's (2003). Erlam conducted an experiment on how deductive and inductive instruction presented explicitly affected French grammar learning. She reported a clear advantage for the deductive instruction in both comprehension and production tests. Similarly, a number of other studies reported an advantage for explicit instruction (DeKeyser, 1995; Ellis et al., 2006). The results, on the other hand, are not in conformity with those of Winke (2013), who concluded that noticing was promoted by textual enhancement. However, according to the results of the present study, enhanced input does not seem to work significantly to promote grammar acquisition when it is not followed by further explicit instruction.

The second purpose of this study was to investigate the differences in the learners' receptive and productive knowledge of NCs between textual enhancement and explicit instruction groups. As the findings

showed, differences in recognition posttest results were not found to be statistically significant, nor did the differences in production posttest results in both experimental and control groups. As a result, the textual enhancement group did not significantly outperform either the explicit instruction group or the control group in recognizing and producing English NCs. These results provide further empirical support for the findings of the previous studies by Izumi (2002), Park (2004), and White (1998), who did not find any advantage for textual enhancement in drawing learners' attention to form. The present study is further in line with that of Fotos (1994), who found no significant differences between the groups that received direct explicit instruction and those that completed consciousness-raising tasks. Fotos investigated three different grammatical structures: adverb placement, dative alternation, and relative clauses. Prior to these findings by Fotos (1994), Fotos and Ellis (1991) had found that both teacher-provided metalinguistic explanation and a consciousness-raising task completed in pairs resulted in significant gains in understanding the target structure, i.e. dative alternation, as measured by performance in a grammaticality judgment task, with the former producing the more durable gains. However, the results of this study run counter to a number of findings (e.g. Leow, 1997, 2000, 2001) which revealed that more explicit learning conditions lead to a more accurate production of the target linguistic forms. The studies by DeKeyser (1995), De Graaff (1997), Ellis, Loewen, and Erlam (2006), and Robinson (1996) also support the advantage of explicit instruction. However, Morgan-Short et al. (2010) displayed the priority of implicit instruction and Doughty (1991) revealed no distinction. In a review of FFI instruction, Erlam (2003) reported conflicting results. Some favored deductive instruction, others inductive, and some showed no difference.

As to the third research question, the results gained from both the experimental and the control groups confirmed that the instructional condition which provides learners with more explicit explanations, i.e. explicit instruction, does not demonstrate the effective use of grammatical self-regulatory capacity by the learners. However, the

instructional task which provides learners with less explicit explanation, i.e. textual enhancement, is tied to the effective use of self-regulatory capacity. These results illustrate that textual enhancement, albeit less explicit, helps learners capitalize on their self-regulatory capacity more effectively in acquiring receptive knowledge of grammar. Conversely, the results further indicate that in less explicit FFI tasks, learners do not effectively use their capacity of self-regulation in improving their productive grammar knowledge; therefore, this entails the provision of more explicit instruction to encourage learners for the more effective use of self-regulatory capacity in improving their productive grammar knowledge. The relationship between self-regulation and grammar acquisition substantiates the argument for the effect of self-regulation on language acquisition. For instance, Dörnyei (2005) and Weinstein, Husman, and Dierking (2000) believe that the learners who use their self-regulatory capacity more effectively are more likely to benefit from higher resourcefulness, flexibility, and efficiency. Likewise, Macaro (2001) argues that the more learners can apply their capacity of self-regulated language learning by being more proactive learners, the more they seem to prepare the ground for less effortful language learning.

### **Conclusion and Implications**

The findings of the present research contribute to the theoretical debate on the role of textual enhancement as the least FFI and explicit instruction as the most explicit FFI in L2 development. Research in second language acquisition shows that focus-on-form approaches to grammar instruction attempt to draw learners' attention to form by manipulating communicative tasks in the classroom context (Doughty & Williams, 1998; Swain, 1995, 1998, 2005). Considering the crucial role of noticing, processing, and form-meaning connection, the findings of the present study suggest that textual enhancement as a content-enriched strategy and explicit instruction as a strategy to provide metalinguistic information can lead to the improvement of grammar acquisition. Therefore, teaching grammar can be enhanced if learners are provided with both enhanced input and metalinguistic information.

A further conclusion in light of the findings relates the impact of individual differences on grammar acquisition. Individual differences have long been documented to have a role in language learning. The results pertaining to the effect of the learners' self-regulatory capacity on the two form-focused instructional options in the present study imply that more explicit instruction is required to encourage learners to use their self-regulatory capacity more effectively to develop their productive grammar knowledge. Thus, the arguments set forth by Robinson (2005) and Leow (1997, 2000, 2001) receive further support. Robinson argues that differences in the amount of learning under explicit and implicit conditions are because of the differences in the levels of awareness raised by those conditions. Similarly, Leow points out that more explicit learning conditions lead to more accurate production of the target linguistic forms.

The findings of the study have implications for grammar instruction tasks and instructional materials. Regarding the importance of textual enhancement and explicit instruction tasks in triggering deeper processing, it might be advisable for L2 teachers to incorporate a variety of input-based strategies in their teaching practice. A combination of various input tasks in teaching materials may help learners consciously reflect on the language to be learned and involve in processing the rules underlying its structures. What appears to be another area of concern in designing materials is that linguistic features or forms are not noticed in the same way and to the same degree. Instructional materials seem to be more effective if a variety of textual-enhancement strategies are employed in the presentation of linguistic features. This, in turn, might increase the chances of being noticed by the learners. However, on the basis of the results of the present research, textual enhancement alone may not be able to bring about grammar gains unless learners are exposed to the more explicit forms of instruction including explicit instruction. As Batstone (1994) noted, if learners want to learn grammar effectively, they have to “act on it, building it into their working hypothesis about how grammar is structured” (p. 59).

The results of the present study revealed that both textual enhancement and explicit instruction perform effectively as two FonF instructional options in improving receptive and productive knowledge of grammar. Strengthening the same line of research, further studies can be conducted focusing on other FonF instructional options, including a focus on discourse-oriented grammar and on interaction-based feedback, teaching grammar with the aid of structured tasks with a focus on grammar, and with the help of output produced collaboratively. Since no delayed posttest was planned to be part of the design in the present research, the results may partially be interpreted as the positive impact of both textual enhancement and explicit instruction on the comparatively immediate achievements of the learners. It would be more revealing if future research considers the delayed effects of both of the given FFIs on the long-term gains. Moreover, the target structures in this study were nominal clauses. Other grammatical structures with similar or different complexity degrees can also be addressed for the purpose of investigating the practicality and effectiveness of the FonF instructional options.

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