The Interaction of Gender with Text Enhancement and Meta-cognitive Grammar Instruction on Learning and Recall of English Grammar

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Abstract
The current research was an effort to study the interaction of gender with text enhancement and meta-cognitive grammar instruction on learning and recall of English grammar. To this end, two groups of students consisting of 51 learners from both genders were formed. The participants were 51 male and 51 female learners. The 51 participants of each gender were further divided into two groups. Then, an OPT was administered to ensure homogeneity of the participants in terms of grammatical performance as well. Following that, two of the groups received text enhancement method and the other two groups received metacognitive instruction for learning grammar. Finally, the groups sat for a grammar posttest as well as a delayed posttest. When looking within groups, it was found the in metacognitive groups, males performed better on grammar posttest and delayed posttest in comparison with females. Regarding text enhancement groups, males and females did not significantly differ from each other both on posttest and delayed posttest. Finally, it was concluded that gender has the potentiality to affect the outcome of instruction when the role of input is considered in grammar instruction.

Keywords: Grammar, grammar instruction, text enhancement, metacognitive instruction, gender

Introduction

Grammar is regarded as an essential component of language (Bachman & Palmer, 1996; Larsen-Freeman, 2006). Furthermore, the role of input in learning a language has also been emphasized by researchers (Gascoigne, 2006; Smith, 1991; Smith, 1993). As exposing only to comprehensible input is not possible for learners, teachers should get involved in using designed technique for the aim of drawing the students' attention to the formal aspects of L2 which may help learners' consciousness toward target features, leading to better language learning (Smith, 1991). Also, Smith (1993) claimed that making input prominent can be marked in the argument of proposed structures , giving metalinguistic clarifications, giving negative verification by the use of precise modification, making learners indulge in input, providing learners with appropriate strategies in order to be able to develop the input, and enhancing texts (Gascoigne, 2006). The use of strategies in particular is another significant issue in teaching grammar which is considered very useful (Bachman & Palmer, 1996; Larsen-Freeman, 2006).

Moreover, the role of gender in language learning has also been highlighted by researchers (Green & Oxford, 1995; Politzer, 1983). Freeman and Long (1991) in a research has proved that female are better language learners in both first and second language learning rather than males. It has been concluded that in language learning strategies, females are more frequent strategy users in comparison to males (Mohamed Amin, 2000). Given the importance of grammar and input enhancement as well as the important role of gender in language learning, the present study aimed at finding the interaction of gender with text enhancement and meta-cognitive grammar instruction on learning and recall of English grammar.

Research Questions

The present study aimed at answering the following research questions:

Q1: Does gender make a difference in the effects of text enhancement and metacognitive grammar instruction on the achievement of language structures?

Q2: Does gender make a difference in the effects of in the effects of text enhancement and metacognitive grammar instruction on the recall of language structures?

Literature Review

It seems to be generally acknowledged that SLA depends on input and many researchers (e.g., Gass, 1997; VanPatten, 2004) have so far focused on one especial type of input-based instruction which is processing instruction. The role of input and output has been at the center of many studies' attention (Cheng, 2002; Farley, 2001). Besides the usefulness of input, some studies have stated that input directly has an effect on the learning of target forms, while output-based traditional instruction, to which PI has been compared, causes the learned linguistic knowledge (VanPatten& Cadierno, 1993).

According to Neupane (2009), the most prominent feature of input-based instruction is that it applies an especial kind of input to put learners away from the non-optimal processing approaches. Thus, input is not a comprehension-based approach to language teaching such as total physical response, the Natural Approach and so on. Since the purpose of PI is to help learners make form-meaning association during input processing it is more suitable to view it as a type of focus on form or input enrichment. The salient feature of PI is that through the instructional phase, learners never make the target form in question. This does not prevent the role for output since creation may be useful for the expansion of fluency in addition to accuracy. Although VanPatten (2004) recently stated that output may have a number of essential roles in language improvement and also it plays a facilitative role in learning, he did not agree with the idea that using a form in one's output is a direct way to acquisition, and acquisition does not seem to be reliant on output (VanPatten, 2004).

The Role of Gender in Language Learning

There are several ways in investigating the role of gender on the achievement of language that can have an effect on language use and improvement. Gender can affect language use and acquisition due to biological, psychological, or socio-cultural variation between males and females. Gender has a special position in second language learning and has main theories and pedagogical results. It has been concluded that gender significantly has an effect on l2 learning. An overview of SLA research shows that L2 researchers have been examining the impact of gender on various variables such as motivation (You, Dörnyei & Csizér, 2016), language learning ability (Zoghi, 2013), learning styles (Shuib, 2015) and methods and teacher beliefs.

Some researchers have reported the particular gender variations in a regular way. For instance, it has been stated that females are more frequent users of language learning methods than males or females rely more extensively on social strategies rather in comparison to males (Green & Oxford, 1995; Politzer, 1983). In addition, Ehrman and Oxford (1990) in their studies at U.S. Foreign Institute proved that in using language learning strategies by both students and teachers, females were more frequent users of language learning strategies in four groups of general study strategies, functional practice strategies, strategies for communicating meaning, and self -management strategies. Based on the results, although boys and girls both improve in their language studies in terms of grades, females get higher grades (Ehrman & Oxford, 1990).

Gender, as an affective variable, is considered to influence the second language acquisition process. Based on gender role theory, particular roles attributed to either males or females are culture specific and are shared prospects of members of society. Not only males, but also females pick up the suitable behaviors in the society they grow up and by people near them. In other words, all dissimilarities other than physical differences are as a result of the socialization progressions.

According to Keefe (1982), males and females are different biologically regarding learning styles and cognitive abilities. These differences begin from both physiological differences such as the ones in brain progress of males and females and also the ones in cortical utilities. Concerning lateralization which is the functional separation of left and right hemisphere of brain, male and females do not follow the same patterns in a way that males become mostly left hemisphere dominant while female become right hemisphere dominant (Banich, 1997).

Besides biologically and culturally determined gender differences in the world of education, gender differences are marked through differentiation between them in academic presentation, needs and interests (Swiatek & Lupkowski-Shoplik, 2000). Most experts in second language learning believe that females usually are better in second language learning (Holder, 2005; Stöckli, 2004). According to the study which has been done by Bernardt (1991), females have better understanding of English texts at early steps but this difference is not found in later steps of learning. It is worth noting that gender has an effect on second language acquisition processes in various ways and consequently in examining the role of gender on different aspects of language learning, it should be taken into consideration (Larsen-Freeman & Long, 1991).

In many aspects of social and cognitive improvement of human being, the role of gender differences has been confirmed. It has been reported that girls seem more competent in understanding the social problems and finding ways to solve them (e.g., Putallaz, Hellstern, Sheppard, Grimes, & Glodis, 1995).

Text Enhancement

Textual enhancement serves as an implicit and unobtrusive way of controlling learners' concentration to planned structures (Nassaji & Fotos, 2011) since this method focuses students' awareness on the text meaning. In addition, it focuses their awareness on mapping form-meaning relations (Ellis, 2008). Consequently, the forms and features within the improved texts may not always attract the learners' attention. As stated by Smith (1991, 1993), this is because there may be no association between the salience formed externally by teachers and that created internally by the learners. Another possible limitation regarding the impact of textual enhancement on learning linguistic characteristics relates to the meaning aspect. As the students' attention is paid to the meaning of the text, the necessary attentional resources for processing linguistic structures may be lacked (VanPatten, 1996).

In contrast, sometimes those forms that have been made significant in enhanced texts shift learners' attention away from meaning. As a result, enhanced texts may have a negative effect on learners' comprehension (Lee, 2007). Based on the latest studies in the realm of educational psychology which have been conducted by Kirschner, Sweller and Clark (2006), it can be proved that the teaching with minimum clues and salience (including some kinds of learning such as experiential learning which is an instance of enhanced text) results in not considerable performance progress. It seems that both the lack of progress concerning long-term learning indicated by the studies mentioned and the restriction on textual enhancement derive from the same rationales; for instance, learners face restricted working memory and also restricted

attentional resources at the time of learning new structures and features (Sweller, 1988). Therefore, without enough guidance, no inductive learning will take place.

A review of the literature on textual enhancement shows that various studies are very different with respect to the selection of the number and also the target structures under focus. For instance, in studies done by White (1998) and Simard (2009) there is only one feature which was chosen, whereas in the study conducted by Alanen (1995), two forms were targeted. According to Han et al., (2008), difficulty, learnability, semantic content, communicative value, perceptual salience and natural occurrence, and frequency were among the criteria for collecting of these features. Park (2004) claims that the different results of the studies may be as a result of different degrees of learning difficulties of the target forms.

Related Studies

Among the previous studies on textual enhancement, the ones conducted by Shook (1994), Jourdenais et al. (1995), and Alanen (1995) proved that textual enhancement has positive impact on second language learners' grammatical development. The study conducted by Shook (1994) concentrated on Spanish relative pronouns within two sessions. In another study (Jourdenais et al., 1995), Spanish preterit forms in addition to the imperfect were also studied. Alanen' study (1995) observed a significant effect of textual development on the features having high semantic value in Finnish, namely, locative suffix. This finding shows that semantically meaningful structures in comparison to features of grammar can be learned more successfully through the use of textual enhancement.

Looking closely at the findings of the studies conducted by Shook (1994) and Jourdenais et al (1995) reveals that the two studies share another feature, namely, in both studies, the subjects had already been familiar with the constructions. Consequently, it may be concluded that prior-knowledge can help learners to pay more attention to features in those texts which have been improved.

In another study done by Shook (1994) and Alanen (1995) the development of grammar learning through the use of controlled construction tasks in addition to recognition tasks were considered. The outcome revealed the positive impact of such tasks. In contrast, Jourdenais et al. (1995) in his study, observed the impact of textual enhancement in a picture-based writing task. This result may have suggested the learners' use of procedural and somewhat automatic knowledge. On the whole, the effects of textual enhancement was proved very small on the learning of grammatical structures in a study done by Lee and Huang's (2008) meta-analysis. This small effect is in line with the results of study conducted in the realm of educational psychology on learning results from learning with minimum guiding (Kirschner et al., 2006). Despite textual enhancement which can develop learners' grammatical performance, language learning strategies have also been considered to be efficient in different skills of the language.

Leow (1997) studied how text length and textual enhancement have an effect on comprehension of text content and intake of the impersonal imperative forms of Spanish verbs. Eighty-four college-level learners of Spanish were randomly assigned in one of four conditions: a long, non-enhanced text; a long, enhanced text; a short, non-enhanced text; and a short, enhanced text.By underlining and bolding the target forms in the texts, texts were enhanced. Comprehension was evaluated through a short - answer comprehension task in subjects' first language , and intake was evaluated through a multiple –choice task. Leow (1997) concluded that length of the text had big impact on comprehension and suggested that use of shorter authentic texts might be useful for improving beginning learners' reading comprehension, but shorter texts

will not essentially improve the intake of linguistic features. In addition, there was no significant effect of textual enhancement on either comprehension or intake.

Regarding textual enhancement, literature shows mixed results, and it makes it difficult to come to acceptable conclusions concerning the role text enhancement in SLA. Concerning learners' intake of linguistic features, some researches did not show any impacts for textual enhancement (Leow, 1997; Overstreet, 1998) but some other studies could link some of their outcomes to the use of textual enhancement. Doughty (1991), for instance, found that participants receiving textual enhancement performed better on tests of form than those in a control group exposing any input enhancement and in addition to a group that received explicit rule instruction. Alanen (1995) reported that learners in textual enhancement group outperformed those in the control group without any input enhancement, and learners received explicit-rule instruction had better performance on tests of target forms. Jourdenais et al. (1995) and White (1998) found that textual enhancement caused their learners to significantly state more cases of the targets. Shook (1994) also proved that textual enhancement was helpful.

Methodology

Participants

The participants of the current study were 102 intermediate learners (51 males and 51 females) who were selected randomly from among 150 intermediate EFL learners studying in Kimya language institutes in Iran. The original 150 learners were randomly selected from among different intermediate classes at this institute. Overall, there were 10 female (N=113) and 10 male classes (N=98) and each class contained 7 to 17 language learners. Totally, 75 female and 75 male language learners were selected from the classes. To ascertain whether the participants were of the same proficiency level, a PET test was administered to this 150 selected pool of learners and finally 102 intermediate learners were chosen as participants in this study. The participants ranged in age from 18 to 26. They were mainly university students and were studying English for the purposes of finding better jobs, perusing their studies or immigrating to English speaking countries.

Instruments

Four instruments were used in the present study, a description of which follows:

Preliminary English Test PET

As mentioned earlier, a proficiency PET was administered to make sure that learners were homogenous with respect to their language proficiency. Preliminary English Test (PET), the Cambridge Preliminary English Test, or PET for short, is a qualification in English as a Foreign Language awarded by Cambridge ESOL. The test has these sections:

A-Reading Writing are taken together - 90 minutes

B-Listening - 30 minutes

C-Speaking - an interview, 10 minutes

PET was administered to the participants and the students whose scores fell within the range of one standard deviation above and below the mean were selected as the legitimate participants of the study (see section 4.3). In other words, only the participants whose scores lay under the normal curve were chosen. To this end, there were 51 male and 51 female participants who were chosen out of the initial 150.

Oxford Placement Test (OPT)

Having selected the 102 homogenized participants in terms of overall language proficiency, the researcher administered an OPT the results of which were drawn upon to identify those grammatical structures that learners were unfamiliar with. The results of OPT were drawn on to develop the grammar knowledge test based on the grammatical structures that the learners did not know.

Grammar Knowledge Test

This test was devised by the teacher-researcher and included forty multiple choice items. First, it deemed important to establish the validity and reliability of the grammar test. To this, end the following procedures were followed:

Validity

The validity of the test was established through the employment of a "differential experiment" procedure proposed by Brown (2007).According to this procedure in order to show the construct validity of a measurement instrument, the instrument could be employed to assess the ability it claims on two different groups whose ability sounds obviously different in this regard. If the difference between the performances of the two groups proves to be statistically different, it could be concluded that the measurement instrument is assessing what it is supposed to measure and hence it is valid. Based on the aforesaid procedure, the test was administered to two different group of learners that is pre-intermediate students and upper-intermediate students. The scores obtained by the groups were analyzed using an independent samples T-test. Tables 1 and 2 display the frequency statistics of the grammar test scores of the upper-intermediate and pre-intermediate learners, respectively.

Table 1. *Frequency Statistics of the Upper-intermediate Learners' Scores on the Grammar Test*

Scores		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	26.00	1	1.1	3.3	3.3
	27.00	2	2.2	6.7	10.0
	28.00	4	4.4	13.3	23.3
	29.00	2	2.2	6.7	30.0
	30.00	2	2.2	6.7	36.7
	31.00	1	1.1	3.3	40.0
	32.00	7	7.8	23.3	63.3
	34.00	2	2.2	6.7	70.0
	35.00	5	5.6	16.7	86.7
	36.00	3	3.3	10.0	96.7
	38.00	1	1.1	3.3	100.0
	Total	30	33.3	100.0	
Missing	System	60	66.7		
Total		90	100.0		

Table 2. *Frequency Statistics of the Pre-intermediate Learners' Scores on the Grammar Test for Validity*

Scores		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	12.00	6	6.7	20.0	20.0

	13.00	1	1.1	3.3	23.3
	14.00	10	11.1	33.3	56.7
	15.00	4	4.4	13.3	70.0
	16.00	1	1.1	3.3	73.3
	17.00	4	4.4	13.3	86.7
	18.00	1	1.1	3.3	90.0
	19.00	1	1.1	3.3	93.3
	21.00	1	1.1	3.3	96.7
	22.00	1	1.1	3.3	100.0
	Total	30	33.3	100.0	
Missing	System	60	66.7		
Total		90	100.0		

In the next step, an independent samples t-test was run on the scores of the two groups in accordance with the procedures proposed by Brown (2007). Table 3 illustrates the results of this test.

Table 3. *Results of Independent Samples T-test for Comparing Pre-intermediate and Upper-intermediate Learners' Scores on the Grammar Test for Validation Purposes*

	Group	Mean	S. D.	T	Sig.
Grammar Test scores	Pre-intermediate	14.9667	2.59287	1.386	0.003
	Upper-intermediate	31.8000	3.28424		

As it can be seen in Table 3, the significance level is 0.003 which is lower than the confidence level of 0.05 leading to the conclusion that the means of the two groups on the test was significantly different with the upper-intermediate learners outperforming the pre-intermediate ones. Therefore, it could be inferred that the test measured the intended construct for which it had been developed hence the validity of the test is established.

Reliability

Test-retest procedures were drawn on to assure the reliability of the test. To this end, the test was run twice on the upper intermediate learners with a time interval of 15 days and Pearson correlation coefficient was used, the results of which showed an acceptable reliability index. To accomplish this, the same grammar test was administered to the same group of upper-intermediate learners who had taken the teat for validity purposes. Table 4 demonstrates the frequency statistics of the upper-intermediate learners on the second administration of the grammar test.

Table 4. *Frequency Statistics of the Upper-intermediate Learners' Scores on the Re-test of Grammar*

		Frequency	Percent	Valid Percent	Cumulative Percent
	26.00	1	1.1	3.3	3.3
Valid	28.00	4	4.4	13.3	16.7
	29.00	3	3.3	10.0	26.7

	30.00	1	1.1	3.3	30.0
	31.00	3	3.3	10.0	40.0
	32.00	4	4.4	13.3	53.3
	33.00	3	3.3	10.0	63.3
	34.00	1	1.1	3.3	66.7
	35.00	2	2.2	6.7	73.3
	36.00	5	5.6	16.7	90.0
	37.00	2	2.2	6.7	96.7
	39.00	1	1.1	3.3	100.0
	Total	30	33.3	100.0	
Missing	System	60	66.7		
Total		90	100.0		

Afterwards, Pearson correlation coefficient formula was run in an attempt to establish the reliability of the test. Table 5 displays the respective results.

Table 5. *Correlation Coefficient between the Scores of the Upper – intermediate Learners on the First and Second Administration of the Grammar Test*

		First Administration of the grammar test
Second Administration of the grammar Test	Pearson Correlation	.961**
	Sig. (2-tailed)	.000
	N	30

Correlation is significant at 0.01**

As Table 5 indicates the reliability index is 0.961** at the confidence level of 0.01 which shows that the test enjoys a satisfactory level of reliably index (Brown, 2007).

Materials

The following materials were used for text enhancement treatment:

Enhanced Texts

Enhanced texts prepared for the purpose of the current study were based on Richards and Schmidt (2010). Based on their definition enhanced texts are those texts in which input is provided to language learners through making the intended target language features more salient, such as by underlining and bold-facing them. Therefore, in line with Richards and Schmidt (2010), the targeted grammatical structures used in the texts were underlined and bold-faced.

List of Metacognitive Strategies (Mohandoss & Singh, 2010)

The list of questions was borrowed from Mohandoss and Singh (2010) and included the three metacognitive strategies of planning, monitoring and evaluation as follows:

A) Planning:

1)What is the given task?
2)Do I already know anything about this particular task?
3)What is my learning goal here?
4)How much time do I need to complete the task?
5)What are my plans in accomplishing this task?

B) Monitoring:
6)Do I know this already?
7)Have I understood?
8)If not, what am I going to do?
9)Should I revise my plan?
10) Should I ask for help?
C) Evaluation:
11)Have I understood everything completely?
12)If not, what do I need to do?
13)Have I achieved my goal?
14)Did my plan work?
15)What are the strategies I worked out here?
16) Do I need to go back to the task to fill in any blanks in my understanding?

It must be noted that these question were used to train and sensitize language learners with metacognitive strategies and were not considered any measurement scale.

Procedure

Initially, PET was administered to the original 150 participants who had been chosen randomly from a larger pool of learners. Next in an attempt to homogenize them in terms of overall language proficiency, based on the standard deviation and the mean 102 out of 150 participants were chosen i.e. 51 male and 51 female participants. In other words, students with scores below mean score +1 and -1 standard deviation were chosen. The 51 participants of each gender were divided to two groups. Then, an OPT was administered to ensure homogeneity of the participants in terms of grammatical performance as well. Afterwards, the treatment was carried out. Table 6 displays the schematic representation of the study.

Table 6. *Schematic Representation of the Study*

Groups	Treatment
25 Male learners (A)	Text Enhancement
26 Male learners (B)	Metacognitive Grammar Instruction
25 Female learners (C)	Text Enhancement
26 Female learners (D)	Metacognitive Grammar Instruction

To this end, groups A and C were exposed to enhanced texts including the highlighted grammatical features under instruction. The following steps were taken in these two groups:
1)The texts were distributed among the learners.
2)They were asked to look at the highlighted grammatical features.
3)They were put into pairs and asked to figure out why those grammatical features had been used in those instances in the texts.
4)The learners were then asked to compare the reasons they had found with other groups.
5)Finally, learners were asked to try to explain the explicit rules of the grammatical structures to other learners.

As for groups B and D the following procedures were used:

First, note should be taken that the same grammatical structures used in groups A and C were taught in groups B and D. However, in these groups at the outset learners were trained in the use of metacognitive strategies in line with Mohandoss and Singh (2010). The nature of metacognition and its three components were explained to the participants. Then, the researcher fully explained to them how to plan, monitor, and evaluate the learning process. They were also given a set of reflective questions that led them to plan, monitor, and evaluate their learning process. To this end, after teaching the grammatical points, the learners were encouraged to use the list of questions in order to evaluate, monitor and plan their learning concerning grammar.

Finally, the four groups of the study at the end of the treatment session sat for the grammar posttest to investigate the possible effects of text enhancement and metacognitive grammar instruction on grammatical performance. Moreover, to investigate the effect of treatment on the recall of grammatical structures the same grammar test was administered to the participants 15 days after the first posttest.

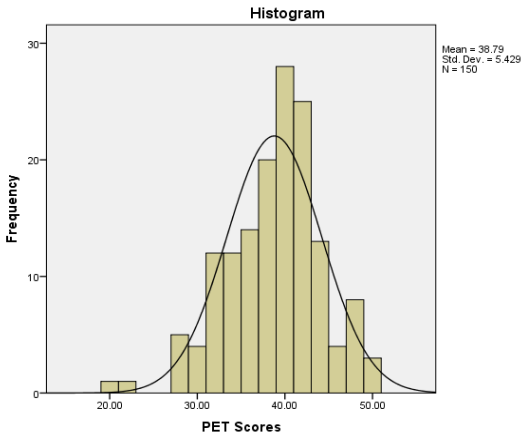
Results

Homogeneity of Participants in Terms of Language Proficiency

Initially, based on the normal curve of PET (2010) scores and the respective histogram, (figure 1), 102 subjects out of 150 whose scores fell within the range of 38.79+/- 5.429 (one standard deviation above and below the mean) were selected. This was done to assure the homogeneity of the participants in terms of overall language proficiency. Table 7 and figure 1 display the frequency statistics and the respective histogram of PET scores for the initial 150 chosen participants, respectively. Table 7 shows the descriptive statistics for PET scores as well.

Table 7. *Descriptive Statistics of PET Scores for the Initial 150 Subjects*

	N	Minimum	Maximum	Mean	Std. Deviation
PET Scores	150	20.00	50.00	38.7867	5.42872
Valid N (list wise)	150				



As the above histogram shows the distribution of data is close to bell shape which indicates the normal distribution of data. After establishing the normal distribution of data students whose scores fell between +1 and -1 standard deviation were selected as the study's participants. Therefore, there were 102 students who further divided into two groups of 51 students. One group was named Metacognitive group after being chosen for being treated with

metacognitive grammar instruction. The other one was named Enhancement group because students in this group were taught grammar using text enhancement method. In both metacognitive and enhancement group, students were divided into female and male students. Totally there were four groups each containing 25 students in male groups and 26 in females groups.

Homogeneity of the Groups in Terms of Grammar Knowledge

After selecting the participants of the study they were divided into four equal groups. In order to establish the homogeneity of the groups in terms of grammar knowledge, OPT was administered. OPT contained 100 items testing grammar knowledge of the participants. Afterwards, one way ANOVA was run to make sure the four groups are not significantly different from each other in terms of grammar knowledge. Tables 8 and 9 show the descriptive statistics as well as the results of one way ANOVA for the students' scores on OPT.

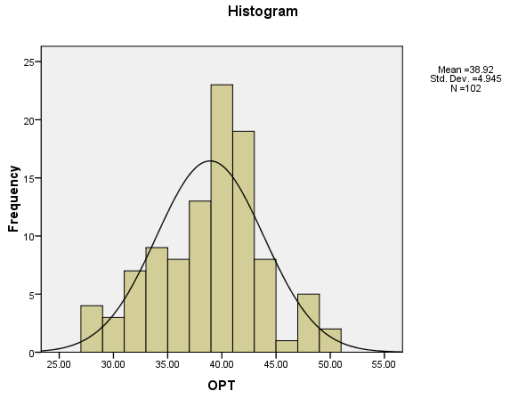
Table 8. *Descriptive Statistics of Students' Scores on OPT*

	N	Minimum	Maximum	Mean	Std. Deviation
OPT	102	28.00	50.00	38.9216	4.94462
Valid N (listwise)	102				

Table 9. *ANOVA Test Results on OPT Scores*

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	47.834	3	15.945	.645	.588
Within Groups	2421.538	98	24.710		
Total	2469.373	101			

As evident in Table 9 the F value was found as 0.64 with significant level of 0.58. Since p> 0.05, it was clear that the four groups of participants did not significantly differ from each other in terms of grammar knowledge. The following figure shows the histogram of students' scores on OPT and its normal curve.



Investigating the First Null Hypothesis

The first null hypothesis assumed that gender does not make a difference in the effect of the two methods on the achievement of language structures. To test this hypothesis, an

independent samples T test was run once for text enhancement group and once for metacognitive group between males and females. According to descriptive statistics, females had mean score of 34.24 (SD=7.83) and males had mean score of 34.38 (SD=5.60) in enhancement group. Table 10 shows the descriptive statistics for test enhancement group between males and females.

Table 10. *Descriptive Statistics for Test Enhancement Group between Males and Females*

	Group	N	Mean	Std. Deviation	Std. Error Mean
posttest	Text Male	25	34.3846	5.60055	1.09836
	Text Female	25	34.2400	7.83837	1.56767

To detect the statistical difference between the two groups independent samples test was drawn on. The results of T test can be found in Table 11 for text enhancement method between males and females.

Table 11. *Results of Independent samples T-Test for Text Enhancement Method between Males and Females*

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
posttest	Equal variances assumed	2.600	.113	.076	48	.940	.14462
	Equal variances not assumed			.076	43.324	.940	.14462

Levene's Test for equality of variances indicated that the two groups had equal variances on posttest scores (P>0.05). The T test showed that no statistics significant difference existed between males and female in text enhancement group. The T value was 0.07 with significant level of p>0.05. In other words both males and females performed similarly on posttest. This means that gender was not related with text enhancement method in teaching grammar. However, this was not true for metacognitive instruction for improving grammar knowledge.

With respect to gender and metacognitive instruction, as shown in Table 12, males performed better than females. Males had mean score of 36.06 (SD=5.47) but females had mean score of 31.50 (SD=5.86).

Table 12. *Descriptive Statistics for Males and Females in Metacognitive Instruction*

	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Males	26	36.0000	5.47723	1.09545	16.00	40.00
females	26	31.3846	5.86568	1.15035	18.00	40.00
Total	52	33.6471	6.08547	.85214	16.00	40.00

To detect the statistical difference between the two groups independent samples test was drawn on. The results of independent samples t-test can be found in Table 13 for metacognitive

method between males and females. As Table 13 shows Levene's Test for equality of variances indicated that the two groups had equal variances on posttest scores (P>0.05) and accordingly T value proved to be 2.90 with significant value of p≤0.05 for metacognitive group. This indicates that males and females performed significantly different from each other on posttest.

Table 13. *Results of Independent samples T-Test for Metacognitive Instruction between Males and Females*

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
posttest	Equal variances assumed	.312	.579	2.902	50	.006	4.61538
	Equal variances not assumed			2.906	48.960	.005	4.61538

This means that in metacognitive instruction gender affected the results and males and females performed differently. Therefore, the null hypothesis was reject and it was found the gender make a difference on the result of metacognitive instruction for improving grammar.

Investigating the Second Null Hypothesis

The second null hypothesis dealt with effect of gender on recalling grammar for both text enhancement and metacognitive instruction methods for teaching grammar. Similarly, independent samples T test was run for detecting possible differences between males and females for both metacognitive group and text enhancement group.

According to descriptive statistics males had mean score of 33.50 (SD=5.56) and females had mean score of 33.72 (SD=7.74) in enhancement group. Table 14 shows the descriptive statistics for test enhancement group between males and females.

Table 14. *Descriptive Statistics on the Recalling Test for Text Enhancement Group between Males and Females*

	Group	N	Mean	Std. Deviation	Std. Error Mean
Recall Posttest	Text Male	25	33.5000	5.56597	1.09158
	Text Female	25	33.7200	7.74338	1.54868

It was found that for text enhancement group both males and females performed similarly on the same posttest taken 15 later after the first administration.

Table 15. *Results of Independent samples T-Test for Delayed Posttest between Males and Females in Text Enhancement Group*

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference

Recall Posttest	Equal variances assumed	3.059	.087	-.117	48	.907	-.22000
	Equal variances not assumed			-.116	43.470	.908	-.22000

As seen in Table 15, Levene's Test for equality of variances indicated that the two groups had equal variances on delayed posttest scores (P>0.05) and accordingly T value was 0.11 with significant value of p>0.05. Therefore, no significant difference was found between males and females in terms of grammar score on delayed posttest.

But in metacognitive group males and females performed differently as was the case for the first posttest administration. The T test showed that in delayed posttest which was take 15 days after the first administration, males performed better than females. Table 16 shows the descriptive statistics of the males' and females' scores in metacognitive group on recall posttest.

Table 16. *Descriptive Statistics for Males' and Females' Scores in Metacognitive Instruction Group on Delayed Posttest*

	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Males	26	35.4800	5.63560	1.12712	16.00	40.00
Females	26	30.8846	5.96206	1.16926	17.00	40.00
Total	52	33.1373	6.19684	.86773	16.00	40.00

As Table 16 shows, males had mean score of 35.48 (SD=5.63) and females had mean score of 30.88 (SD=5.96). The results of T test proved that this difference in mean score on delayed posttest between males and females in metacognitive group was statistically significant (Table 17).

Table 17. *Results of Independent Samples T-Test between Males' and Females' Scores in Metacognitive Instruction Group on Delayed Posttest*

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Recall Posttest	Equal variances assumed	.025	.874	2.826	50	.007	4.59538
	Equal variances not assumed			2.830	48.987	.007	4.59538

As Table 17 shows Levene's Test for equality of variances indicated that the two groups had equal variances on delayed posttest scores (P>0.05) and accordingly that T value was 2.82 with the significant value of p≤ 0.05 indicating a significant difference between males and females in metacognitive group in terms of their scores on delayed posttest.

Discussion and Conclusion

The current study attempted to study the interaction of gender with text enhancement and meta-cognitive grammar instruction on learning and recall of English grammar. The results of statistical analyses indicated that in metacognitive group, males outperformed females in grammar posttest and delayed posttest while in the text enhancement group, males and females were not significantly different neither in posttest nor in delayed posttest scores.

By considering the role of gender on learning grammar through using text enhancement and metacognitive instruction, it was concluded that males significantly performed better than females both on immediate and delayed posttest in metacognitive instruction group, while in text enhancement method, there was not any significant difference between males and females both on immediate posttest and delayed posttest. In other words, it can be stated that in this study metacognitive instruction has been sensitive to gender and has been more on the side of males rather than females. The role of gender on learning strategies has been discussed and many researchers such as (Dreyer & Oxford, 1996; Lan & Oxford, 2003; Lee and Oxford, 2008) took them in consideration. In contrast to some studies (Dongyue, 2004; Lan & Oxford, 2003) which showed that females are more frequent and better strategy users, in this study metacognitive strategy instruction were more on the side of males and they performed better after being taught through metacognitive strategies. This can be because of contextual and educational history of language learners. Males and females are treated different in Iranian context. In educational context of Iran, females are taught by female teachers and males by male teachers. Although this is not the case in private language institute, in typical education male and female students are educated by male and female teachers correspondingly.

The fact that male and female students in text enhancement method of learning grammar did not differ significantly, can also be clarified by different contextual factors. For example, in this study, whether the students in both method of instruction of grammar had similar characteristics in terms of learning styles, motivation, personality traits, anxiety, etc. or not were not determined. All these elements have been able to affect the outcomes of education. This can be one reason that males performed better on both immediate and delayed posttests in metacognitive instruction group but not in text enhancement group.

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