The Role of Recast on Left Hemisphere Dominant vs. Right Hemisphere Dominant Iranian EFL Learners

Soghra Pazoki [1], Fatemeh Seyed Rezaei [2]

[1] Department of English, Garmsar Branch, Islamic Azad University, Garmsar, Iran; [2] Department of English, Qeshm International Branch, Islamic Azad University, Qeshm, Iran & Education and Training Organization, Gorgan, Iran

Abstract

In order to address the issue of brain dominancy in feedback reception, the present was conducted to investigate the effect of recast on Iranian EFL left brained vs. right brained learners' learning of English past tense. The data were collected from 98 adolescent EFL learners who were studying English in language institutes in Iran. Of the two left brained groups, one group was assigned as the experimental and the other as the control group and the same procedure was followed for the two right brained learners. While the two experimental groups were provided with recast, the two control groups received no recast during the study. Descriptive statistics and one way ANOVA through SPSS. 16 were conducted with respect to the research question. The analysis of the participants' performance on the posttest demonstrated that the experimental groups outperformed the control groups, and left brained learners more than right brained learners benefited from recast. As a result, the efficacy of recast in establishing new grammatical knowledge was proved. Further, the brain dominancy of the learners did affect the degree of the utility of recasts in developing grammar knowledge. The present study has pedagogical implications for both English language learning and teaching.

Keywords: corrective feedback, recast, brain dominancy, hemisphericity, second language learning.

Introduction

Dealing with second language (L2) learner errors is an indispensible aspect of classroom pedagogy. However, there is a considerable controversy regarding the effectiveness of corrective feedback for improving L2 accuracy. In particular, the role of feedback in correcting L2 students' erroneous utterances has been the subject of an extensive debate in the second language acquisition literature.

Feedback has great influences on learning and achievement but this impact can be either positive or negative. According to Ferris (1999), feedback can help students to use or practice their language because it is very powerful. Most people do not feel they lack feedback from others on how they could improve their performance, how they could be a better language learner. A growing trend is to provide people with feedback on their strengths and weaknesses.

The proponents of connectionist model of language learning underline the role of attention and consciousness in language learning and the role of and yield support to explicit error correction (Ellis, 2006; Loewen, & Erlam, 2006).

On the contrary, Krashen (1982) denied any substantial effects of corrective feedback in SLA. He argued that any knowledge consciously learned through explicit instruction cannot contribute to L2 acquisition. Relevant to Krashen's view, Schwartz (1993) as a nativist believe that using of corrective feedback has little influence on language learning because it only affected learners' performance without even superficial impact on students' competence. On the other hand, Swain's (1995) output hypothesis, throwing light on the significance of output opportunities in L2 development by making and testing hypothesis about metalinguistic

Corresponding author: Soghra Pazoki, Department of English, Garmsar Branch, Islamic Azad University, Garmsar, Iran. E-mail: soghra.pazoki@yahoo.com.

knowledge. Schmidt (1990) stated that noticing is required in order learning to occur. He approved the benefits of corrective feedback regarding the facilitative role it has in drawing learners' attention to form. From this perspective, corrective feedback acts as stimulus, triggering learners to pay attention to the gap between their erroneous utterance and the correct form.

Long (1996) through interaction hypothesis also put emphasis on explicit error correction. He stated that "negotiation for meaning, and especially negotiation work that triggers interactional adjustments by the NS or more competent interlocutor" ease the process of language learning since it "connects input, internal learner capacities, particularly selective attention, and output in productive ways" (Long, 1996, pp. 451-452).

On the other hand, the theory of hemisphericity that gain upsurge interest in the recent years, refers to idea that people may rely on preferred mode of cognitive processing, which is linked to the activity on the part of the left or right cerebral hemisphere. Over the recent years, following a tremendous interest of studies of specialization of the cerebral hemispheres, there has been an increasing tendency toward the concept of hemisphericity. Even though the term may be applied differently by different scholars, it is generally associated with the mode of cognitive processing which in turn implies the predominant activity either the left or the right cerebral hemisphere.

On the top of all, the characteristic of hemisphericity can be attached with a number of aspects of personality including reasoning, thought, and abnormal states. Most of the works in this area are related to educational and cognitive developmental aspects (Joseph, 1982; Kline, Allen & Schwartz, 1998).

Hemisphericity has therefore been considered to be relevant in the different areas of education such as second or foreign language learning and acquisition. Undoubtedly, as Prince (1978) states, there are lateral differences between the cerebral hemispheres in the organization of human performance.

On the other hand, though the concept of hemisphericity of brain processing systems has obtained a lot of attention in recent years, to the best of my knowledge, there is no or scanty study which has ever investigated the relation of brain hemisphericity with one of the most conventional and influential type of feedback, namely recast.

Recast refers to the teacher's reformulation of all or part of a student's erroneous utterance. In other words, recast can be regarded as an implicit corrective feedback, for example, a repetition of content in a grammatically correct way or it can also mean paraphrases of a learner's incorrect utterances that involve replacing one or more of the incorrect components with a correct form while maintaining the meaning.

 Some scholars treated corrective recast is a type of negative feedback in which a more competent interlocutor rephrases an uncorrected or incomplete utterances of the learners by changing one or more sentence components while still maintaining the main meaning. In fact, recasts are thought to be one way in which learners acquire new linguistic structures or come to notice that the ones they are using are not correct.

Lyster and Ranta (1997) developed an observation scheme which describes different types of feedback that teachers give on errors. They also examined students' uptake. They made observations in content-based classroom. Their results showed that recasts accounted for more than half of the total feedback provided in class.

Several other studies proved that recast is the most common form of corrective feedback and it appears to go unnoticed by the learner most of the time. Other researchers found that learners are willing to answer to a recast when it is directed on somebody else's speech. So, even if they do not lead to the uptake of the error producer, they do get noticed by over hearers.

Broadly speaking, recast leads to uptake. Further research findings demonstrate that recasts work in a language focused class, as opposed to content-based, with adult learners, especially those who received grammatical instructions prior to observation period. In the language-focused class, students are more likely to perceive recasts as a feedback on the form of their utterances.

Statement of the problem

Many studies have probed the relative effect of implementing various types of feedback and have recommended that providing learners with a variety of corrective feedback can help them acquire correct forms. There is no one way that can always guarantee success in terms of all students in various classes, but rather different learners need different types of feedback. Other factors such as laterization and hemisphericity of the brain may also affect successful language acquisition.

In spite of the fact that students can benefit from being provided with various types of corrective feedback that attempt to guide learners to the target language, sometimes learners can be dissatisfied with a language class because of mismatches between students' and teachers' expectations and techniques. Learners' hemisphericity in terms of being right dominant or left dominant may be essential to effective L2 acquisition. Schulz's (2001) study found that learners' perceptions, interpretations, and hemisphericity that affect learners' style and strategy of learning, have the greatest influence on their achievement. Thus, understanding students' perceptions and style of learning can be the first step toward leading them to acquire correct forms. As Brown (2007) points out, "L2 teachers and their students may have similar or disparate notions of effective teaching" (p. 46). Therefore, it is important for teachers to know their learners' preferences for corrective feedback in order to maximize its potential positive effect on language development.

Although many studies have investigated the effective type of feedback and effectiveness of corrective feedback in second language acquisition (Lyster&Ranta, 1997; Panova&Lyster, 2002; Philp, 2003), relatively few studies have investigated the effect of the recast on the learners' hemisphericity in terms of being left vs. right dominant (Brown, 2007; Yoshida, 2008). However, no study has ever explored whether learners' hemisphericity, left vs. right dominant, influences students' preferences for corrective feedback in Iranian EFL context.

Significance of the study

The effects of error correction or corrective feedback on language learning cannot be ignored. If different learners including left brained vs. right brained learners respond differently to corrective feedback and make different progresses in learning, it would be the responsibility of teachers and curriculum designers to pay attention to these differences and account for them.

This study dealt with the issue of effect of type of feedback i.e. recast on brain hemisphericity of Iranian EFL intermediate students in terms of being left dominant vs. right dominant, which gains more importance especially in those areas in which the educational system incorporates a systematic policy for correcting errors. Many studies have conducted on the difference among different types of error corrections concerning learning language but it is interesting to examine the relationship of the most popular type of feedback i.e. recast with left dominant and right dominant learners because no previous study has ever paid attention to this novel issue. If the possible outcome suggests that there existsa strong effect of recast on either left-dominant learners or right- dominant learners and hemisphericity causes learners perform differently with respect to recast as one of the most effective corrective feedback, the results of current study can be insightful and valuable in terms of contributing to learners' language development. Further, the finding can make one of the best ways to corrective feedback by providing a good atmosphere for students to perform better through introducing a novel way of recast on left brained vs. right brained learners. It can also eliminate students' notion of learning recast as a difficult task to do. Consequently, the teachers based on the findings of current study can first conduct need analysis to determine the left dominant vs. right dominant learners, and then provide them with the most appropriate type of feedback to help them remove their error and improve their language skills.

Research question

The current study aimed at providing answer to the following research question:

Does teacher corrective recast have any significant effect on left hemisphere dominant vs. right hemisphere dominant EFL learners' learning of past tense grammar?

Literature Review

The role of corrective feedback in SLA and previous studies in this area

According to Krashen (1981), what has been at the core of SLA theory and research on corrective feedback is the distinction between acquisition and learning. To date, a number of studies have investigated the effectiveness of various types of corrective feedback on second languagedevelopment. These studies suggest that corrective feedback has significant impact on second language development (Russell &Spada, 2006; Lyster and Saito , 2010).

The crucial role of corrective feedback in SLA theory has led to a growing number of studies to probe the relationship between feedback and L2 learning (Basturkmen, Loewen, & Ellis, 2004).

While some experimental studies such as Carroll, Roberge, and Swain (1992) found that feedback

group outperformed the no-feedback group in acquiring the targeted form under the study.Allwright and Bailey(1992) argue that the use of corrective feedback should be delayed to trigger learners' self-repair.

On the other hand, Chaudron's (1986) and Fanselow's (1977) investigations of teachers' corrective feedback in classrooms suggested that feedback provided inconsistency and often went unnoticed by students.

Regarding the effectiveness of different types of corrective feedback, a lot of studies were done to investigate the effect of recast, as the most frequently used corrective feedback. Han (2002) identified four conditions that may affect the effectiveness of recasts including individualized attention, consistent linguistic focus, learners' developmental readiness, and intensity of the treatment.

On the other hand, the findings of some studies revealed that although recast is the most common used corrective feedback, it leads to the lowest rate of uptake while elicitation, meta-linguistic clues, clarification requests, and repetition of error led to higher rates of uptake(Lyster&Ranta, 1997; Panova&Lyster, 2002). Ammar and Spada (2006) investigated the effects of recasts and prompts on L2 learners' written and oral ability across different proficiency levels and found that prompts were more effective than recasts and that the effectiveness of recasts was sensitive to the learners' proficiency level. In particular, high-proficiency learners benefited equally from both prompts and recasts, whereas low-proficiency learners benefited significantly more from prompts than recasts.

In another study, Lyster and Izquierdo (2009) investigated the impact of recast and prompt on the acquisition of grammatical gender among adult French learners and claimed that both types of feedback are effective. Learners receiving recasts benefited from repeated exposure to positive exemplars as well as from opportunities to infer negative evidence, whereas learners receiving prompts or clarification requests benefited from repeated exposure to negative evidence as well as from opportunities to produce modified output.

Finally, Nassaji (2009) examined both immediate and delayed effects of two other types of feedback, i.e. recasts vs. elicitations which showed that recasts were more effective than elicitations in immediate effects. Also, the results of this study indicated that in both corrective feedback types, the more explicit form was more effective than its im-

plicit form. Therefore, the degree of explicitness was reported to be very crucial in the effectiveness of these two types of corrective feedback.

Theory of brain hemisphericity and study done in this area

Hemisphericity or style of information processing is defined briefly as a tendency for a person to rely more on one than other cerebral hemisphere in processing information. On the other hand, brain hemisphericity is the tendency of an individual to process information through the left hemisphere or the right hemisphere or in combination (McCarthy, 1996; Springer & Deutsch, 1993). Oxford (1996) maintained that left hemispheric dominants are highly analytic, verbal, linear and logical learners, whereas right-hemispheric dominants are highly global, visual, relational, and intuitive learners.

MacCarthy (ibid) stated the left hemisphere is specialized for language, whereas the right hemisphere is specialized for visual-spatial thought. Whole-brain dominants are those who process information through both hemispheres equally and exhibit characteristics of both hemispheres.

Even though most of the literature suggests each of the brain hemispheres as dichotomies, Saleh and Iran-Nejad (1995) through the idea of hemispheric dominance suggests that brain hemisphericity acts on a continuum and it is not dichotomous. Some studies found that students taught through methods that matched their hemispheric styles achieved statistically significant higher test scores than when they were taught through other teaching methods (Jarsonbeck, 1984).

With regard to hemispheric dominance and laterality, Steinberg (1993) asserted that while the right hemisphere controls the left side of the body the left hemisphere controls the right side of the body including , the right hand , the right arm , and the right side of the face. This phenomenon, where one hemispheric is the major is called dominance or hemispheric dominance.

Based on Broca's, it was further discovered that despite their similar anatomies, the left and right cerebral hemisphere had very different functions. Language seems to be done on the left side while the right hemisphere considered mute. Further. Levy (1985) stated that the right brain was viewed as an unthinkable automation while the left hemisphere was not only dominant for language but for all psychological processes.

Lavach (1991) examined the brain hemisphe-

ricity of students with different majors. He reported that humanities students showed preference for the right-hemispheric dominance. Natural science students demonstrated a left-hemispheric mode, while social science majors showed preference for left-hemispheric dominance.

On the other hand, MacCarthy (1996) suggested that brain hemisphericityis related to different academic majors and people based on their learning styles choose their academic majors. Herrman (1982) stated that academic subjects such as arts, the humanities, and architecture are believed to be suitable for right brain dominant students, whereas other subjects such as science, engineering, and language emphasize logic and verbal analysis, are more suitable for left-brain dominant students.

Methodology

Participants

The participants in this study were 137 Iranian intermediate EFL learners, age 19-32, attending different language centers in Pakdasht, Iran. In order to make sure in objective terms that these learners were truly homogenous with regard to their English proficiency level, a Nelson proficiency including 40 multiple-choice items was administered. The reliability of the test was calculated through KR-21 (r=.76α).

Having obtained the proficiency test results, the researcher decided to select those participants whose scores were one standard deviation below and above the mean (M=29.83, SD=8.05) to enhance the precision of the results and to control as many as extraneous factors as possible. Finally, 103 learners met this homogeneity criterion and were regarded as the participants of this study. Later, the researcher administered a hemisphere dominance questionnaire survey developed by McCrone to determine left hemisphere vs. right hemisphere dominant learners. The questionnaire included 16 items.

Then, the participants were matched on the basis of their brain dominancy. According to scoring procedures of the test, learners whose left total score based on brain dominance test was above or equal to 10 were considered as left hemisphere dominant and learners whose right total score was above or equal to 10, were treated as right hemisphere learners. Lastly, those whose sum of total score was below 10, were regarded as balanced hemisphere learners. Finally, it was shown that 48 of the participants were

left hemisphere and 50 of students were right hemisphere dominant students and 5 of them were balanced hemisphere.

In the next procedure, from among 48 left brained learners, 24 of the learners were randomly assigned to experimental group and 24 of them were randomly assigned to the control group. The same random assignment was done for 50 right hemisphere dominant learners and 25 of them were randomly assign to control group and 25 of them were randomly assign to experimental group.

Instruments

A number of testing instruments were utilized in the process of the development of the present research.

Proficiency test

Nelson Battery–Section 200 A (Fowler & Coe, 1976) was applied to determine the homogeneity of the groups regarding their levels of proficiency. Though Fowler and Coe (1976) claim that all their test items have been pretested and so their tests seem to be reliable for the purpose of testing the language proficiency of students, still the reliability of this test was computed through the application of Kudar and Richardson (KR-21) method (r = .76). It consisted of three sections: cloze tests, structure, and vocabulary in the form of multiple choice questions. There were, in all, 50 items and the time allotted was 45 minutes.

Pre-test/posttest

For the groups to be comparable and for an experiment like this to be meaningful, the researcher had to make sure that the learners in the experimental and control groups enjoyed the same level of knowledge regarding the linguistic forms under investigation (past tense grammar).

To examine the impact of recast as a means of error correction, a teacher-made test was administered including multiple-choice items, testing English past tense grammar. This pretest also served as posttest. The test was piloted with 26 learners, including 13 right hemisphere dominant learners and 13 left hemisphere dominant learners similar to the sample in the current study. Furthermore, items with either unacceptable item facility or item discrimination were discarded.

The reliability of the tests was calculated through KR-21 method which turned out to be 0.80. The target structure, namely past tense grammar, was chosen for some crucial reasons. First, it was chosen due to its significance and substantiality of past tense in second language learning and

EFL discourse. Second, regarding the current status of students many parts along with useful activities were devoted to this grammatical structure. Lastly, the purpose of this study was to investigate the effect of teacher corrective feedback, i.e. recast on the left hemisphere and right hemisphere dominant learners in terms of helping learners consolidate new grammatical structure.

Procedure

This study aimed to investigate the effect of recast on left hemisphere dominant vs. right hemisphere dominant learners during 10 sessions of English program courses in some language Institutes in Pakdasht, Iran.

The following steps were taken to carry out the study. At the beginning of the study, Nelson Battery–Section 200 A (Fowler & Coe, 1976) was applied to participants to determine the homogeneity of the groups regarding their levels of proficiency.

After collecting data through brain hemisphericity inventory, the researcher analyzed the obtained results, based on the scoring procedure suggested at the end of the inventory. 48 participants' total left score were equal to 10 or higher, 50 participants obtained total right score either equal to 10 or higher, and finally 5 participants whose total scores were below 10 were regarded as balanced hemisphere learners. Since the purpose of current study was to measure and examine the effect of recast as a means of correction on the left brained learners vs. right brained learners, the researcher discarded balanced hemisphere learners and continued the study with 98 participants, namely left brained learners (N=48) and right brained learners (N=50). Then, 48 left brained students were randomly assigned to two groups including one control and one experimental group.

On the other hand, the 50 right brained learners were randomly assigned to two groups, namely experimental and control groups and each group included 25 learners.

Next, the researcher administered pretest including 20 multiple choice items of grammar past tense to detect whether four groups were at the same level of grammar knowledge or not. In other words, the pretest illustrated whether four groups, i.e. two experimental and two control groups had the same level of proficiency with respect to the English past tense because the learners in two experimental groups received treatment i.e. recast on their grammatical errors while students in two control groups received no corrective feedback in the form of recast to their erroneous utterances. After determining the homogeneity of learners through pretest, the experimental phase of study started. Teachers applied different types of recast, including implicit and simple recast, recast through repetition, learner centered and unobtrusive recast, teacher reformulation recast, partial recast, and multiple recasts during intervention.

In addition, the teacher provided learners with lots of opportunities to consolidate new forms and produce the learned target structure. For instance, she asked students in two groups to practice new forms through making sentences, giving examples, having discussion on past events, and writing both expository and narrative paragraphs about past events to be encouraged to produce output, i.e. regular and irregular past tense. It is also worth mentioning, students in two experimental groups received the same treatment i.e. recast on their grammatical error during ten sessions of treatment in order to determine the effect of recast.

Contrary to the two experimental groups, the two control groups did not receive any teacher corrective feedback in the form of recast to their erroneous utterances using past tense structure in their sentences.

After doing the treatment, the researcher administered the posttest after one week, to compare the mean scores of the four groups in both pretest and posttest to shed light on the fact that whether recast had any significant effect on the students' performance on the past tense grammar test. To control the test effect or practice effect, the interval between the pretest and posttest was long (about one month and a half). Therefore, it was less probable for the examinee to learn something from the previous administration or memorize some of the items.

Data analysis

According to Mackey and Gass (2005), descriptive statistics provide a simple overview of data, thus allowing the researcher to expand her/his overall understanding of the data set. The collected data were processed utilizing the Statistical Package for Social Sciences (SPSS) version 16.0 to analyze the data. The mean and standard deviation for the whole participants were calculated. In addition to descriptive statistics, One-way ANOVA was run in line with research question to determine the significant difference among the four groups.

Since four independent groups, namely one

experimental left brained group, one control group of left brained learners, one experimental right brained group, and one control group of right brained learners attended the present study; ANOVA and Post Hoc Scheffewere applied to measure the differences in the mean performances of the four groups.

Results and Discussion

The research question taken into account in this study was whetherthe teacher's corrective recast has any significant effect on left hemisphere dominant vs. right hemisphere dominant EFL learners learning past tense grammar.

A null hypothesis was proposed with regard to the research question as follow:

H0. Recast has no effect on left hemisphere dominant vs. right hemisphere dominant EFL learner learning of past tense grammar.

At the beginning of the study, the researcher administered pretest including 20 multiple choice items of grammar past tense to detect whether four groups were homogeneous and at the same level of performance or not.

Table 1 indicates the results of the participants' performance in the four groups on the pretest.

Table 1. Descriptive statistics on the performance of the groups on the pretest.

Group	N	Mean	Standard deviation
Ex-LH	24	12.5833	1.81579
Con-LH	24	12.4583	1.55980
Ex-RH	25	12.8800	1.87794
Con-RH	25	12.2400	1.50776
Total	98	12.5408	1.68875

Further, ANOVA was conducted to examine the mean differences in the performance of the four groups. The Levene's test shows the Equality of Error Variance which demonstrates minimal differences in the variances of the performance of the four groups. Table 2 shows the result of Levene's test for homogeneity of variances.

Table 2. Levene's test of equality of error variances.

Levene Statistics	df1	df2	Sig.
.799	3	94	.498

Table 3. Comparison of the groups on the pretest.

Pretest	(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
	EXLH	CONH	.12500	.49014	.996	-1.2703	1.5203
		EXRH	-.29667	.48522	.945	-1.6932	1.0847
		CONH	.34333	.48522	.918	-1.0532	1.7247
	CONH	EXLH	-.12500	.49014	.996	-1.5357	1.2703
		EXRH	-.42167	.49522	.860	-1.8182	.9597
		CONRH	.21833	.49522	.977	-1.1782	1.5997
	EXRH	EXLH	.29667	.48522	.945	-1.0999	1.6780
		CONLH	.42167	.48522	.860	-.9749	1.8030
		CONRH	.64000	.48024	.622	-.7422	2.0072
	CONRH	EXLH	-.34333	.48522	.918	-1.7399	1.0380
		CONLH	-.21833	.48522	.977	-1.6149	1.1630
		EXRH	-.64000	.48024	.622	-2.0222	.7272

According to table 2, the P value for Levene's test is greater than .05 (P=.498). Therefore, the homogeneity of variances assumption was not violated. On the other hand, as table 3 illustrates, the differences in the means of the four groups on the pre-test are not meaningful. Thus, the four groups were not statistically different from each other on the pre-test.

According to the results of the above table, all four groups had obtained approximately similar scores on the pre-test. Thus, we can conclude that students were at the same level of proficiency and performance in the pre-test.

The main purpose of the research question was to examine whether teacher corrective recast accompanying past tense grammar instruction assisted significantly the learning of the targeted grammatical structure or not.

The researcher administered the post test, one week after the treatment, to compare the mean scores of the four groups in both pretest and posttest and to shed light on the fact that whether recast had any significant effect on the students' performance on the past tense grammar test.

Table 4 shows descriptive statistics of the four groups' performance on the both pre- and posttest.

Table 4. Descriptive statistics of the four groups' performance on the pre and posttests.

Group	Test	Mean	SD	Std.Error
EXLH	Pretest	12.5833	1.81579	.37065
	Posttest	14.1250	1.96297	.40069
CONLH	Pretest	12.4583	1.55980	.31839
	Posttest	12.5833	1.58572	.32368
EXRL	Pretest	12.8800	1.87794	.37559
	Posttest	14.0800	1.73013	.34603
CONRH	Pretest	12.2400	1.50776	.30155
	Posttest	12.5600	1.63503	.32701

As can be seen in the above, the four groups' mean scores on the posttest are greater than those on the pretest. Besides, the posttest mean scores of the two experimental groups are higher than those of the two control groups. To measure the differences among the means, ANOVA was run. According to table 5, the results of

ANOVA demonstrated that there was a statistically significant difference at the .05 significance level in the posttest mean scores for the groups $(F (3,94)=6.371)$. The F-value of 6.371 was higher than the critical value of 2.71 at 3 and 94 degrees of freedom. On the other hand, the P value is lower than the significance level (P=.001).

Table 5. Results of ANOVA for four groups' performance on the posttest.

Length of study-ing	Sum of squares	df	Mean square	F	Sig
Between group	57.429	3	19.143	6.371	.001
Within group	282.458	94	3.005		
Total	339.888	97			

Although the F-value of 6.371 denoted a significant difference among the four groups' mean scores on the post-

test, the post hoc testwas run in order to locate the exact place of differences among the four groups' mean scores.

Table 6. The results of Post on the performance of the four groups on the post hoc test.

(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
EXLH	CONH	1.54167*	.50041	.028	.1171	2.9662
	EXRH	.04500	.49538	1.000	-1.3652	1.4552
	CONH	1.56500*	.49538	.023	.1548	2.9752
CONL	EXLH	-1.54167*	.50041	.028	-2.9662	-.1171
	EXRH	-1.49667*	.49538	.033	-2.9069	-.0864
	CONH	.02333	.49538	1.000	-1.3869	1.4336
EXRH	EXLH	-.04500	.49538	1.000	-1.4552	1.3652
	CONH	1.49667*	.49538	.033	.0864	2.9069
	CONH	1.52000*	.49030	.027	.1242	2.9158
CONRH	EXLH	-1.56500*	.49538	.023	-2.9752	-.1548
	CONH	-.02333	.49538	1.000	-1.4336	1.3869
	EXRH	-1.52000*	.49030	.027	-2.9158	-.1242

*P>.05

Contrary to the results on the pretest, according to table 6, the mean performances of the four groups' on the posttest showed a significant difference except between the two control groups and between two experimental groups, i.e. right brained experimental group and left brained experimental groups. Hence, it can be concluded that the two experimental groups outperformed the two control groups on the post-test.

Post-hoc comparison indicated that the mean score for left brained experimental group (M=14.12, SD=1.96) was significantly different from left brained control group (M=12.58, SD=1.58), and right brained control group (M=12.56, SD=1.63). In other word, there was a significant difference between left brained experimental group and left brained control group (P=.028<.05) and left brained experimental group and right brained control group (P=.023<.05).

Furthermore, the results of multiple comparisons shed light on the fact that, the mean scores of right brained experimental group (M=14.08, SD=1.73) was significantly different from left brained control group (M=12.58, SD=1.58), and right brained control group (M=12.56, SD=1.63). In other words, there was a significant difference between right brained experimental group and right brained control group (P=0.27<.05) and left brained control group (P=0.33<.05).

Although there was alsoa difference in mean between the scores of the left brained experimental group (M=14.12, SD=1.96) and right brained experimental group (M=14.08, SD=1.73), the difference was not statistically significant (P=1>.05). However, the left brained experimental group outperformed the right brained experimental group and obtained higher mean score on the posttest. Thus, it can be concluded that recast as a corrective feedback was more effective in terms of left brained learners.

In a nutshell, teacher recast in past tense grammar instruction was found to be significantly effective in improving learners' grammatical accuracy of the target structures. In other words, recast had a significant effect on establishing grammatical knowledge of English past tense. Further, this finding highlights the worth of recast in facilitating language learning, especially in learning new grammatical structures.

Conclusion

The present study was conducted with ninety-eight participants to investigate the effect of recast as one of the most frequent type of feedback on grammatical accuracy of left brained and right brained learners. Analyses of data shed light on the fact that the provision of recasts was effective in promoting L2 learners' noticing, in particular, of grammatical errors.

Numerous studies found that there is relationship between corrective recast use and grammatical development among learners (Farrar, 1992; Saxton,

2000). On the other hand, a large number of studies have found evidence to support the effectiveness of incorporation of recasts following treatment (Iwashita, 2003; Leeman, 2003; Philp, 2003). Despite the findings of the previous studies, the debate continues in the L2 learning field as to whether recasts are beneficial in terms of second language learners. In addition to the above mentioned issues, one of the important issues that no study has ever focused on is the effect of recast on left brained learners vs. right brained learners. This may have been the case in the current study. Even though the participants in two experimental groups, namely left brained experimental group and right brained experimental group who had received the recasts showed improvement, left hemisphere dominant learners remarkably outperformed right hemisphere dominant learners. However, the difference between two experimental groups was minimal.

The differences between two experimental groups and two control groups were found to be significant, i.e. two experimental groups outperformed remarkably two control groups. In another sense, recast was found to have positive effect on the both right brained and left brained students' performance, albeit right brained learners improved to a lesser extent.

In contrast to previous studies (Lyster and Ranta, 1997; Panova&Lyster, 2002; Lyster, 2004; Oliver & Mackay, 2003), which claimed that recasts are ambiguous to L2 learners and cannot be very influential because they remain unnoticed by learners, the results of present study revealed that recast was influential and had positive effect on learners' performance.

Unlike their arguments that students who received recasts do not demonstrate subsequent gains in their L2 accuracy because they have difficulty noticing their own errors and because they are uncertain about how to interpret recasts, the findings of current study indicated that students responded appropriately to the corrective power of recast and after receiving recast on their erroneous utterances, both left brained and right brained learners produce correct uptake.

On the other hand, responding to the results of current study, several research studies have also found that recasts are beneficial for language learning (Han, 2002; Iwashita, 2003). Relevant to the results of current study, Han's (2002) study showed that intensive recasting increases learners' noticing and development of morphosyntactic features.

Zhuo's (2010) study also lent support to the results of the current study. His study examined the relative effects of explicit and implicit recasts on the acquisition of English noun plural by Chinese EFL learners. The results indicated that those students who received recast either explicitly or implicitly outperformed the control group.

Responding to the results of present study, Mackey and Philp (1998) reported a positive effect of recasts on the acquisition of question formation in English and suggested that in order for a recast to be effective, learners must have reached a stage of developmental readiness, i.e. they should be at least at intermediate level.

Lyster and Izquierdo (2009) also supported the finding of this study in terms of positive effect of recasts.They probed the impact of recast on the acquisition of grammatical gender among adult French learners and claimed that recasts are effective. Learners receiving recasts benefited from repeated exposure to positive exemplars as well as from opportunities to infer negative evidence.

On the other hand, the current finding is in disagreement with some other studies that shed doubt on the effectiveness of recasts. For example, some researches (Nicholas, Lightbown, &Spada, 2001) found that recasts were ambiguous and hence were sometimes perceived as synonymous in function as mere repetition for language learners. As previously mentioned, Panova and Lyster (2002) also believe that recasts usually remain unnoticed by the learners and they are not facilitative for interlanguage development. According to Loewen and Philp (2006), recasts do not elicit repair and learners are simply provided with the correct form without being triggered to modify their interlanguage.

Although diverse viewpoints exist regarding the effect of recasts, there is general agreement among SLA scholars that recasts are the most frequent form of error correction employed by teachers in second and foreign language classrooms. It is, of course, true that recasts are complex discourse structures that can sometimes be difficult for learners to notice.

In general, the findings of the current study revealed that teacher's corrective recast was significantly effective in removing erroneous structures from the learners' language. Therefore, the teachers should correct students' erroneous utterances in an appropriate way. In other words, leaving learners' errors unnoticed might result in the fossilization of erroneous structures; hence, they should not be neglected. Instead, learners' errors should be corrected either on the spot or with delay.

Theoretical and pedagogical implications

The findings of the present study illustrated that error correction is necessary for second language improvement. Based on the findings, it can be suggested that teachers should correct student errors instead of ignoring them as if there were no errors in their utterances. Given the fact that teachers' immediate error correction decreases students' motivation to speak (Allwright& Bailey, 1991), spoken errors should be treated after students finish speaking. Also, teachers should use appropriate type of feedback to facilitate the effects of error correction and promote language learning.

Moreover, in this study the greater effectiveness of recasts lies in situations where learners are given additional cues that help them recognize recasts as feedback on error. Thus, teachers should bear in their mind that recast should be accompanied with other cues in order to become more effective and not to be remained unnoticed by learners.

The present study also lent support to the Lyster's (2002) claim that recasts can provide supportive scaffolding that helps learners participate in lessons when the target forms in question are beyond their current abilities. He also stated that recasts are ideal for facilitating the delivery of complex subject matter.

The teachers should also know that recast can be effective when learners can already use a particular linguistic feature and is in a position to choose between linguistic alternatives.In other words,the students' learning level can determine the feedback technique to be adopted to a great extent. For example, the use of recasts with high-level learners is more suitable as they are able to understand its implicit corrective nature, in contrast to low-level learners who might perceive the recast as confirmation of the content of their utterances rather than correction of their errors. The present studythrows light on the effectiveness of recast on grammatical accuracy of the learners.

In general, before adopting any kind of feedback, the teachers should ask themselves whether a particular feedback can affect students' interlanguage in a good way or not. In the present study, the results showed that learners who received the corrective recasts improved more than learners in the control group in terms of accuracy of the use of past tense forms. The results can be interpreted in a way that the recast should be presented in a certain manner in order to help the students understand its corrective nature so as to lead to real change in the learners' inter-language system.

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