

**Investigating the Effect of Inductive and Deductive Grammar Instruction and Input Enhancement on Iranian EFL Learners' Grammar Achievement**

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**ABSTRACT**

The present study was conducted to investigate the effectiveness of deductive instruction of grammar with input enhancement and without using input enhancement. It also explored the effectiveness of inductive instruction of grammar with input enhancement and without input enhancement among Iranian EFL learners. The participants were female intermediate-level students who were studying English at Language Institutes. They were selected on the basis of administration of a pretest. Eighty intermediate students out of one-hundred and twenty were selected. They were divided into four groups of learners. Then five English tenses including simple present tense, present continuous tense, simple past tense, past continuous tense, present perfect tense were instructed to them during five sessions. The first group members were exposed to deductive teaching of grammatical structures and input enhancement techniques, such as color coding. The second group members were instructed the same materials without input enhancement techniques. The third group members were taught grammatical structures inductively using input enhancement techniques such as color coding during teaching. The participants of the fourth group were taught in the same way but without input enhancement techniques. To fulfill the purpose of the study, a grammar posttest was administered to the participants to determine their performance on the use of five English Tenses. For analyzing the results, two independent Sample T-tests were used. Based on the mean differences, the results indicated that there was a significant difference between participants who were taught deductively with input enhancement and those who were instructed deductively without input enhancement. In addition, it was found that there is a significant difference between the student who were exposed to inductive teaching through input enhancement and those who were taught inductively without input enhancement. With respect to these findings, it can be concluded that the enhanced groups outperformed the other groups. Moreover, the results showed that input enhancement helped the participants to learn the structures better. Furthermore, inductive teaching of grammar proved to be more beneficial than deductive instruction.

Key words: Deductive instruction of grammar, Inductive instruction of grammar, Input enhancement, Consciousness raising, Rule discovery

## **Introduction**

Grammar is an essential component of any language. “Language without grammar would be chaotic: countless words without the indispensable guidelines for how they can be ordered and modified” (Batstone, 1994, p.4). Grammar rules change the form of the words and connect them into sentences. As human beings speak language, they can easily put words together and make sentences, but talking about the structure of these sentences is a complex mental activity.

In the second language teaching history, the role of grammar has been a controversial issue. The debate has been about two different extreme positions. At one end of the extreme are the proponents of those methods, such as the Grammar Translation Method and the Cognitive Code Learning, who believed that grammar should gain central attention in language teaching. They also proposed that grammar should be the core of language instruction and all learners errors must be corrected. Followers of Krashen and Terrell (1983) lie at the other end of extreme. Krashen and Terrell’s (1983) Natural Approach provided some opportunities for the language learners in order to use language in communicative contexts without conscious attention to language structures. They suggest that grammar should not be taught explicitly and students’ errors must not be corrected. In other words, the main issue about grammar is whether the teacher should consider accuracy of form while teaching grammar or not (Celce-Murcia, 1985).

### ***Deductive approach (rule-driven learning)***

According to Widodo (2006), deductive approach comes from deductive reasoning which proceeds from the general to specific principles. In this approach, first there is a presentation of the rules, concepts, principles or theories and their application comes. In pedagogical grammar, deductive approach is also called rule-driven learning in which a grammar rule is presented explicitly to the learners by the teacher; then it is practiced by applying that specific rule through some examples. In other words, deductive instruction happens while the teacher first presents the grammatical rules then shows them in the examples.

### ***Inductive approach (the rule – discovery path)***

In Widodo’s (2006) view, the notion of inductive reasoning works from particulars to generalities. In other words observing a number of specific instances and inferring a general principle is called induction (Norris & Ortega, 2000, Erlam, 2003, cited in Widodo, 2006). In grammar teaching, inductive approach can be called rule-discovery learning. First, the teacher presents some examples of sentences; then, the learners pay attention to the grammatical rules in those examples and understand them. This approach brings about a kind of active participation of the students in which they can develop their mental strategies in dealing with the task.

### ***Input enhancement***

Consciousness-raising to solve the problem learning of forms has attracted the attention of language teachers in recent decades. Input enhancement was first introduced by Sharwood Smith

(1981). In consciousness-raising, “the language teacher tries to raise the learners’ consciousness of the new target forms” (Alsadhan, 2011, p.22). On the other hand, Sharwood Smith (1991, as cited in Alsadhan, 2011) claimed that paying attention to enhanced target forms may not lead to acquisition of that form. Hence, Sharwood Smith (1991) used input enhancement instead of consciousness-raising.

Sharwood Smith (1991, 1993) defined “input enhancement” as making the input salient by internal or external factors to the learners. Input enhancement is a process which can be “a result of deliberate input manipulation or it can be the natural outcome of some internal learning strategy” (Sharwood Smith, as cited in Alsadhan, 2011). Algiassophi (2009) made a distinction between external salience and internal salience. External salience refers to the situation when the teacher manipulates the input which is made enhanced. Internal salience refers to the condition when the input is made salient by internal learning mechanism.

Alsadhan (2011) pointed out that making second language forms more salient to take learners’ attention is the main role of input enhancement. Input enhancement was divided into three components by Ellis (1993, 1994, 1995, as cited in Alsadhan, 2011). The first one is interpretation; it means the new target structure is comprehended then the learners’ use of these forms and the correct use of the forms are cognitively compared. The second part is integration when the three phases completed. It leads to a kind of knowledge which can be integrated to implicit system. The last component is production in which using new target forms can be done automatically.

According to Sharwood Smith (1993, as cited in Rashtchi & Gharanli, 2010), there are also two kinds of input enhancement: positive and negative. The correct forms in the input were highlighted in positive input enhancement; that is, target forms are **bold**, underlined, CAPITALIZED or *italicized*. On the other hand, error forms are highlighted in negative input enhancement such as error flags.

In second language learning, conscious learning process and subconscious acquisition process are two kinds of processes which were distinguished by Krashen (1981). He considers these two fields as two separate processes. According to Schmidt (1990), there are three different senses of “consciousness”: levels of perception, noticing and understanding. Schmidt (1990) defined levels of perception as obtaining and processing information. By ‘noticing’ he means rehearsal in short term memory and he assigns “understanding” to rule understanding.

In order to examine the degree of difference between deductive and inductive instruction of grammar through input enhancement and without input enhancement, the following research questions were proposed:

1) Is there a significant difference between performances of Iranian EFL learners who are exposed to deductive instruction of grammar and input enhancement and those who are exposed to deductive instruction of grammar without input enhancement?

2) Is there a significant difference between performances of Iranian EFL learners who are exposed to inductive instruction of grammar and input enhancement and those who are exposed to inductive instruction of grammar without input enhancement?

## **Method**

### ***Participants***

To carry out the purposes of this study, 120 female intermediate-level learners who were studying English in five language institutes in Karaj were given a grammar test as a pretest. The grammar test which was conducted to homogenize participants was taken from *English Grammar in Use* book. Afterwards 40 of the participants whose scores were beyond one standard deviation above or below the mean were excluded from the study; therefore, the ultimate number of participants who contributed to this study was 80. They were randomly assigned to four groups of learners. Two groups were taught grammar deductively, one of them with enhanced input. Two other groups were instructed grammar inductively, one of them with enhanced input. The classes met three times a week and each session lasted for 30 minutes. The *Grammar in Use Intermediate* was the main course book in all the classes.

### ***Instrumentation***

One of the instruments which were used in the present study was a grammar pretest. Prior to the treatment phase, the grammar pretest was administered to the participants in order to homogenize them. The test consisted of 22 Multiple Choice items taken from *Grammar in Use* book. Each item on the grammar pretest consisted of a stem and two, three or four choice responses focusing on one of the five tenses in English grammar taught during treatment phase. The possible test scores ranged from 0 to 22 points. The grammatical items for the posttest were also taken from *Grammar in Use* book and consisted of 22 items: 12 items were production test (fill in the blank) and 12 items were recognition test (choosing between two underlined grammar structures). Posttest items aimed to test five grammar tenses and possible test scores ranged from 0 to 22 points.

### ***Procedures***

To accomplish the goals of the present study the following procedures were done. The subjects were selected according to the English level at which were studying in language schools. They were all studying at intermediate level in five English institutes in Karaj. An intermediate grammar test (pretest) was administered to all of the participants to check the homogeneity of the learners' grammatical knowledge of the five English tenses (simple present tense, present continuous tense, simple past tense, past continuous tense, present perfect tense). The results showed that the participants were homogenous in terms of the mentioned English tenses. In order to discover which approach to teaching grammar is more effective, after pretest, the 80 intermediate students were divided into four classes or groups of twenty students randomly: group A, group B, group C, and group D. Each group received instruction for five sessions. Within the five sessions, five grammatical structures including simple present tense, present continuous tense, simple past tense and past continuous tense and present perfect tense were taught. The grammatical points were taken from *Grammar in Use Intermediate* book.

Group A received a deductive instruction on grammar. The teacher explained the rules involved and pointed out the examples that showed the grammatical structures. Group B received a deductive instruction on grammar through explanation of the rules involved, and then the teacher pointed out the examples that consisted of the color coded grammatical structures. Group C received an inductive instruction on grammar introducing some sentences which included

grammatical structures. Group D received an inductive instruction on grammatical constructions and the intended structures were color coded.

At the end of the program, the instructor administrated a grammar posttest which was a kind of production test. The purpose of the posttest was to evaluate all of the students' level of learning and whether there has been any significance difference in the scores of the learners after the treatment phase as well as to collect data to more accurately evaluate the performance of the four groups.

## Results

### *Investigation of the first research question*

The first question sought to investigate if there is a significant difference between performances of Iranian EFL learners who are exposed to deductive instruction of grammar and input enhancement and those who are exposed to deductive instruction of grammar without input enhancement. To investigate the first research question, the collected data from posttest scores were analyzed by employing Independent Sample T-Test. As *Table 1* shows, the means of the two groups are different. *Table 1* reveals the results of descriptive statistics.

**Table 1.** Descriptive Statistics for the Second Independent Sample T-Test

Groupmembership	N	Mean	Std. Deviation	Std. Error
deductive + input enhancement	20	11.9000	3.25900	.72873
Deductive only	20	8.2500	4.05067	.90576

As shows in *Table 2*, the difference between deductive with enhanced input group(M=11.90,SD=3.25) and deductive without enhanced input group(M=8.25, SD=4.05) was significant [t (38)=3.14,  $p < 0.05$ ]. This indicates that there is a statistically significant difference between the two groups. So, the first null-hypothesis is safely rejected. The mean score of the deductive + input group members is greater than the mean score of the deductive. Consequently,

it can be claimed that the deductive + input enhancement group members outperformed another group members on the posttest.

*Table 2. The Results of the First T-Test procedures*

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	<u>2.049</u>	.161	3.140	38	<u>.003</u>	3.65000	1.16252	1.29661	6.00339
Equal variances not assumed			3.140	36.335	<u>.003</u>	3.65000	1.16252	1.29306	6.00694

***Investigation of the second research question***

The second research question sought to investigate if there is a significant difference between performances of Iranian EFL learners who are exposed to inductive instruction of grammar and input enhancement and those who are exposed to inductive instruction of grammar without input enhancement. To investigate the second research question another Independent Sample T-Test was used. *Table 3* below indicates descriptive statistics for the second research question.

**Table 3.** Descriptive Statistics for the Second Independent Sample T-Test

Groupmembership	N	Mean	Std. Deviation	Std. Error Mean
inductive + input m e n t	20	<u>13.5500</u>	3.45612	.77281
Inductive s i o n l	20	<u>11.0500</u>	3.18673	.71258

The result of T-test, as shown in Table 4, shows that the difference between the performance the participants of the inductive group which were exposed to enhanced input (M=13.55, SD=3.45) and that of the inductive group without enhanced input (M=11.05. Sd=3.18) was significant [t(38)=2.37.  $p < 0.05$ ]. So the second null hypothesis is safely rejected. It can be concluded that there is a difference between the learners who are exposed to inductive instruction of grammar with input enhancement and those who are exposed to inductive instruction of grammar without input enhancement.

**Table 4.** The Results of the Second T-Test procedures

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	<u>.025</u>	.876	2.378	38	<u>.023</u>	2.50000	1.05119	.37198	4.62802
Equal variances not assumed			2.378	37.752	<u>.023</u>	2.50000	1.05119	.37152	4.62848

## Discussion

Findings of the two research questions showed that enhanced group performed better than unenhanced group on the knowledge of five English language tenses including simple present, present continuous, simple past, past continuous, present perfect. The present study is in line with Nahavandi and Mukundan (2013) who showed that textual enhancement attracts students' attention to the target structures. Rashtchi and Gharanli (2010) also stated that when learners' attention is focused on a particular grammatical structure in the process of doing different language tasks, they are able to recognize and produce appropriate forms to a great extent. In addition, Rashtchi, et al. (2010) in a study proved the role of input enhancement in the improving English conditionals. In addition, Dalili, Ketabi, Kassaian and Rasekh (2011) proved that system-learning occurs when there is a high level of awareness.

In contrast, the results of the two research questions reject the findings of Nell (2011) who mentioned formal explanation of rules has a great effect on forming English passive structures and input enhancement has no effect to improve L2 learners of English Passives. In addition, Presson and Whinney's (2011) research claimed that faster responses are made through explicit instruction than stimulus highlighting. Moreover, Berendes (2012) believed that deductive teaching is beneficial for learning English tenses. Other English grammatical aspects can also be learned through inductive approach.

## Conclusion

According to the findings, the learners who received input enhancement techniques for learning five English tenses were more successful. By using the input enhancement techniques the teacher can promote such cognitive processes as noticing without disturbing the flow of communication. Input enhancement is a kind of techniques which can be helpful in teaching grammar or other components of English language. It can draw students' attention to certain forms. Therefore, the students focus on that specific feature. This attention which is made through employing input enhancement techniques will improve the learners' accuracy of language forms. Besides, it was found that the inductive grammar instructed group members benefited more than deductive grammar instructed group in the treatment. This can help learners to make meaning and to have active role while grammar learning in the classroom. It may also prove to move from deductive instruction of grammar toward inductive grammar teaching by teachers.

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