The Effect of Negative and Positive Evidence on Learning English as a Foreign Language by Persian Speakers

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Abstract

This paper focuses on a parametric difference concerning modifier placement between Persian and English. The lack of noun movement in English causes a learnability problem for Persian speaking learners of English. The hypotheses are that there are some effects of input on learning English as a foreign language in short and long-term periods. The question is whether or not negative evidence plays any role in learning a foreign language. 104 Iranian students learning English as a foreign language participated in this study. The experimental group was taught the English word order through providing negative evidence. The control group was taught the same structure by providing just positive evidence. Right after the instruction, both groups were given the first post-test. This test was re-administered about 12 weeks after the instruction to test the long-term effect of negative evidence. The findings of T-tests indicated that there was a significant difference between the performance of the experimental group and the control group in the immediate post-test. The experimental group outperformed the control group rejecting the inefficiency of negative input at least in the short-term. In the delayed post-test, both groups performed relatively the same. The findings of this study did reject the role of negative evidence in the long-term.

Key words: immediate & delayed post-tests; long & short-term effects; positive & negative evidence; learnability problem.

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1. Introduction

The necessity for input in the process of second language acquisition (SLA) is a well-accepted fact, but the form and type that it needs to take for learning to occur remains a controversial issue. Those subscribing to a nativist or rationalist position of acquisition support the idea that positive evidence is all that is required for acquisition to occur (Chomsky, 1989). They believe that human knowledge develops from structures, processes and ideas that are in the mind at the birth. On the other hand, those working within the interactionist paradigm see positive evidence as insufficient and propose a role for both positive and negative evidence (Labov, 1969; Gass, 2003). Positive evidence can be provided as authentic input, like what occurs in naturalistic conversations. It is also provided as modified input like what occurs in foreigner talk discourse or teacher talk (Chaudron, 1988). In contrast, negative evidence provides information to learners about what is not possible in the target language (Long, 1996; White, 1990; White, 2003). It can be provided preemptively (e.g., through an explanation of grammar rules), or reactively (e.g., through error correction). Reactive negative evidence highlights the differences between the target language and a learner’s output and as such is often described as negative feedback.

The major focus of L2 instruction research has been on what types of input and instruction are most effective for fostering foreign language learning in formal contexts (Doughty, 1991). A number of researchers have investigated the following general research questions:

1. Is an implicit or an explicit approach more effective for short and long-term L2 instruction (Norris & Ortega, 2000; Oliver, 2000; White, et al, 1991; White, 1991a, 1991b, 1992)?

2. Is negative feedback beneficial for L2 development and if so, what type of feedback may be most effective (Carroll & Swain, 1993; White, 1991a; Carrol, 2001)?

In the field of second language research, however, it is widely debated theoretically whether external efforts to 'teach' L2 knowledge can truly influence upon learners' developing L2 competence. Within this debate, some theorists (Gubala-Ryzak, 1992; Schwartz, 1993) hold that true linguistic competence is not affected by instruction. They believe that the only kind of information that is available, or at
least usable, for both L1 and L2 acquisition is positive evidence. In response to the arguments made by Gubala-Ryzak and Schwartz [ibid], White (1992) stated that, while it may be true that negative evidence cannot lead to a change in learners' linguistic competence, this does not mean that negative evidence can never contribute to the learners' interlanguage development.

Foreign language learners sometimes make errors or incorrect generalizations (in many cases based on their mother tongue) that cannot be disconfirmed by positive evidence alone. This paper will focus on a potential learnability problem that is raised for Persian speaking learners of English concerning modifier placement.

1.1. Positive and Negative Evidence

As it was mentioned positive evidence consists of descriptive information about a form or an utterance. It consists of actually occurring sequences, i.e. sentences of the language. Various options exist for positive evidence including plentiful exemplars of the target feature without any device to draw attention to it. For example, Trahey and White (1993) and Trahey (1996) developed materials consisting of stories, games, and exercises with the aim of simply exposing learners to the subject. In this case, acquisition occurs as a result of frequent exposure to a target feature. It involves some sort of attempt to highlight instances of the target feature, thus drawing learners' attention to it (Mangubhai, 2006).

Positive evidence can function entirely by itself. Learners can simply be asked to listen to or read texts that have been provided. It can also be accompanied by some kind of meaning-focused activity that incidentally assists learners to focus their attention on the target feature. For example, comprehension questions that can only be answered correctly if the learners process the target feature. There are tasks that are designed to elicit production of a specific target feature in the context of performing a communicative task, and tasks that are intended to result in learners' employing some feature that has been specifically targeted (White, 1987).

Negative evidence consists of information about the impossibility and ungrammaticality of a form or an utterance. In other words, negative evidence such as explanations, explicit grammar teachings, and corrections of wrong sequences or ungrammatical sentences,
show what may not be done (Cook & Newson, 1996; Spada & Lightbown, 2002; Mackey, Gass, & McDonough, 2000). They contend that knowledge of some of the correct sequences of sentences appears to be unlearnable from positive evidence alone. It needs additional evidence from corrections of impossible sequences, reading the rule-books, comprehending abstract explanations, and so on. There are times when a learner supplies a linguistically incorrect response in reply to a teacher's initiation; the teacher tends to provide direct, explicit, overt negative evidence. However, Chomsky (1981) holds the idea that direct negative evidence is not necessary for language acquisition, but indirect negative evidence may be relevant.

2. English & Persian Noun-Modifier Order

The two languages show contrast with respect to the modifier placement. In Persian adjectives and other modifiers follow the nouns they modify, whereas it is not possible in English, as can be seen in (1). English (1b) is ungrammatical but the Persian equivalent, (1a), is grammatical:

(1) a. akshay-e ziba
   *b. pictures beautiful

A further contrast is that modifiers may appear before the noun in English (2b), whereas they may not in Persian (2a), as can be seen in (2):

(2) *a. abi lebas
   b. A blue dress

The differences between the two languages illustrated in (1) and (2) are recognized as parameters of UG. They are discussed below.

2.1. Noun-movement and Modifier Placement

Following Pollock (1989) and Chomsky (1989, 1995), noun categorical features in world languages are either weak or strong. This parameter accounts for the difference between English and Persian noun phrase word order, including the modifier placement. The nouns
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...feature in Persian is strong, so it raises to the head of Determiner Projection (DP), in contrast, English nouns may not do so.

English and Persian sentences containing noun modifiers share the same deep structure: modifiers are optionally base-generated to the left of the Modifier Projection (MP). At surface structure, nouns in Persian obligatorily raise from N to D. When the movement takes place, the vowel "-e" is added to raised noun in D position. The noun phrase in example (1) is repeated with gloss below:

(3) a. akshay-e ziba
   pictures-e beautiful
   beautiful pictures

This underlying structure, together with noun movement, is illustrated in Figure (1)

(1)

Since there is no noun movement in English nothing is added to the noun.
The noun-movement analysis accounts for the similarity and difference between Persian and English modifier placement in the following way. The two languages are similar in modifier placement in the deep structure but they are different in surface form.

3. Learnability and Parameter Resetting in L2 Acquisition

Izumi and Lakshmanan (1998) have argued that L2 learners use L1 settings of UG parameters as a learning principle, that under certain conditions they are able to reset to the L2 value, and that sometimes negative evidence may play a role in this resetting, in contrast to L1.

The present study deals with Persian speaking learners of English. Their L1 instantiates the noun-raising value of the parameter discussed above, in contrast to the L2 which disallows noun-raising. As far as modifier placement is concerned, there are two related differences between the L1 and the L2 that the learner must discover:

I) the L2 allows MN\(^1\) order
II) the L2 does not allow NM order.

What kind of evidence might inform the learner about these properties of the English modifier placement that might trigger parameter setting? In the case of MN order, providing appropriate positive L2 input should be sufficient. The L2 allows some word orders which do not occur in L1. Even if the learners may initially assume that MN order is ungrammatical, but there should be positive evidence from English in this order. That is, they hear sentences formed by the noun phrase (2b) as part of their input. However, learning that NM is not possible in English causes a big problem, if the learner is supplied with positive input. If the learner assumes that NM is a possible order, as it is in Persian then there is no positive input to indicate the ungrammatical form. This is the case where negative evidence may be required to indicate to the learner the impossibility of certain word order.

The question which may arise is if negative evidence may be required then UG does not operate in L2 acquisition. White (1991) replies that reliance just on positive evidence cannot allow the learner to arrive at the appropriate L2 grammatical forms. That is, negative

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1- MN stands for modifier noun word order and NM stands for noun modifier order.
evidence provides enough information which is not always accessible via positive evidence to reset the L2 word order.

The aim of this study is to find out whether the experimental results will be presented that suggest that explicit information about ungrammaticality (in the form of form-focused instruction and error correction) is beneficial in helping the subjects to master certain properties of English, at least in the short-term.

**Research Hypotheses**

This study was designed to investigate the following hypotheses:

1) Persian speaking learners of English will assume that L1 parameter settings are appropriate for NM word order and that NM is not, in accordance with the noun-raising value of the parameter.

2) Form-focused and error correction teaching method (including negative evidence) concerning English modifier placement will be effective in helping the learners of English to master the fact that English allows MN order and disallows NM. Positive evidence without negative one will not help them that NM is prohibited.

4. The Experiment

4.1. Participants

In order to test the above mentioned hypotheses, an experimental study on the effectiveness of implicit input and explicit input was conducted. The experiment was carried out on the Persian learners of English as a foreign language (EFL) in Iran. The participants took part in this study were 104 Iranian students studying English as a foreign language in grade two in a junior high school. The selection criteria included the followings: (a) previous L2 learning experience (at least three months), and (b) no prior exposure to the modifier placement in English, especially the adjective placement. They were studying English just for the first time as their regular course and they were attending these classes four hours a week. None of them had been taught English in any language teaching institutes.

The participants were randomly divided into two groups: Group 'A', the experimental group, and Group 'B', the control group. For practical reasons, both groups were split up into two subgroups of 26 students each. Before the instruction both groups were given a pre-test to ensure that both are of the same level of the knowledge of the
English language and to ensure that the participants belonging to both groups have the same level of proficiency. The subjects in group 'A' were taught the English word order (the modifier placement) through providing negative evidence and explicit instruction, and the subjects in group 'B' were taught the same structure by providing just positive evidence. Right after the instruction, both groups were given a test (immediate post-test or post-test one) in three following ways: a) grammaticality judgement tests, b) manipulation tasks, and c) oral interview. This test was re-administered about 12 weeks after the instruction (the delayed post-test or post-test two) to test the long-term effect of the negative evidence.

4.2. Materials and Procedures
In order to find out what type of input is more effective in learning English as a foreign language by Persian speakers, the word order parameter was selected to be investigated in this study. The placement of modifier in relation to the nouns is different in these two languages. This parametric difference between Persian and English brings about a learnability problem for Persian learners of English concerning English modifier placement.

After the administration of the pre-test, the modifier placement was taught to the subjects in different ways. The experimental group (group A) was taught through providing negative evidence or explicit instruction. Some grammatical explanations were given, e.g., in English, unlike Persian, modifiers come before the nouns they modify. The trend of language teaching was grammar teaching, form-focused instruction and error correction. The control group (group B) was taught the same structure through providing just positive evidence or implicit input; e.g., cartoons, songs, stories, film without providing any explanations about the modifier placement.

Right after the instruction, the students in both groups were given a test (the immediate post-test) utilizing three types of tests: a) grammaticality judgement test, b) manipulation task, and c) oral interview. Statistical computations were made. Each subject was assigned a score for each type of the test, ranging from 0 to 20 for each of three types of tests in both post-tests. For the oral interview 20 scores, the manipulation task 20 scores, and the grammaticality judgement test 20 scores.
In the grammaticality judgement test, which consisted of 10-item sentences including a case of modifier placement, some of the cases were in a wrong placement. The subjects had to judge whether the sentences are grammatical or not. Each student received two scores for accepting each true modifier placement. The participants also received two scores, if she/he recognized that the noun modifier placement was incorrect (20 in total).

This 10-item sentence judgement task contained six instances of grammatical and four instances of ungrammatical word orders. Participants were instructed to carry out this task as quickly and as carefully as possible. Some of the sentences are given here:

(4) *He is a boy thin.
(5) *The elephant is on a bicycle small.
(6) She has a Persian cat.

In the second type of test that was a manipulation task, the subjects had to rearrange shuffled words into correct sentences that contained cases of modifier placement. They had to do this with the cards on which the words had been written, and in some of those cards, pictures accompanied the words. All shuffled sentences included a case of modifier placement. Each participant was required to make 10 correct sentences using these cards. Some samples of the shuffled sentences are given here:

(7)  He has a corn yellow
(8)  dogs these are white
(9)  blue it is a car

In the oral interview test, each participants was interviewed individually. These interviews focused on the participants’ capacity to use grammatical word order. There were 10 cases of the modifier placement expected to be produced by participants based on the pictures shown to them. The participants’ responses were tape-recorded and replayed after the test to evaluate them. Each correctly produced modifier placement received two scores, 20 in total.
After 12 weeks of instruction the same three types of tests were re-administered to all participants in both groups, with a rather different content this time but identical in nature in order to find out the long-term effect of the treatment.

Results
A series of Independent Sample T-tests were performed on the test scores to examine the main effects of negative evidence on learning English as a foreign language by Persian speakers. In order to make comparisons between the performance of the participants in two groups, the means of the test scores are illustrated in figures 2-3.

4.2.1. Pre-test Scores
As it was mentioned above, the subject selection criteria included the followings: (a) previous L2 learning experience (at least three months), and (b) no prior exposure to the modifier placement in English. To find out whether or not the subjects selected for this study are homogeneous in these criteria they were subjected to a pretest prior to the treatment. Their mean scores on MN word order for groups A and B were 3 and 3.1 out of 20 respectively. NM errors were accepted by both groups before instruction.

4.2.2. Post-test One
To test the hypothesis proposed in this study, concerning the short-term effect, Post-test One was administered immediately after the treatment. It included three types of tasks: a) grammaticality judgement task, b) manipulation task, and c) oral interview. Both groups involved in the study took these tests. The data collected through Post-test One were compared and analyzed. Their MN word order scores are presented in Figure 2.
On pretesting, both groups make an average of 3-3.1 MN scores. Their scores increase dramatically at the Post-test One (see Figure 2). T-test results show that the difference between the groups was significantly different (p>.05), suggesting that Group A learners learn that MN order is allowed but that NM order is prohibited in English and do not forget what they are taught.

### 4.2.3. Post-test Two

The delayed post-test which was identical in form but rather different in content was given to both groups about 12 weeks after the treatment. Like the immediate post-test, Post-test Two also included three types of the tasks: a) grammaticality judgement tasks, b) manipulation tasks, and c) oral interview. Both groups involved in the study were subjected to these test tasks. Its purpose was to see the long-term effects of the instruction. A comparison of the means scores is presented in Figure 3.
On post-test Two, both groups' scores drop comparing with Post-test One. In contrast, Figure 3 shows that the means scores at the second post-test in all three types are very close. This indicates that two groups performed on the tasks of the delayed post-test approximately the same. The differences between both groups in these three tasks were insignificant (P<.05). None of the input types has had a greater effect on learning English than the other in long-run.

Before instruction, NM is performed by both groups as a possible English word order. Only group 'A' specifically instructed on modifier placement come to know that it is less possible than group 'B'. However, MN is never totally rejected by any of the groups, even on pretesting. At the first Post-test at least, positive evidence alone (as supplied by communicatively-based teaching programmes) does not allow the learner to arrive at certain properties of the L2. In the period between the two post-tests, participants in group 'A' remembered the knowledge which they had through the instruction was conscious rather than unconscious, and that it never became part of the learner's interlanguage grammar.

4.3. Summary of results

Returning to the hypotheses investigated in this study, the first hypotheses, namely that Persian learners of English would assume the L1 value of noun-raising parameter, is supported, in that prior to
instruction the learners assume NM to be a possible English word order, in accordance with the Persian value of the parameter.

The second hypothesis was that specific teaching, including negative evidence, would be effective in helping Persian speaking learners of English to arrive at certain modifier placement properties of the L2, and that exposure only to positive input would be insufficient to allow them to deduce the impossibility of NM order at least in the short-term. The results from the long-term study suggest that the structured classroom input was not effective, that it did not in fact result in significant changes in the learners’ underlying competence. The results of post-test two also show that further exposure to positive input is insufficient to allow the learner to arrive at the properties of English modifier placement. On post-test one, group 'B' scores slightly higher in these three tasks than the same group on post-test two. Thus, while the effectiveness of negative evidence turned out to be short-term, the prediction that positive evidence alone would be insufficient was supported in both the short and the long-term.

5. Conclusion

Based on the findings of this study and some other related studies, some simple generalizations can be made here about the types of input:

1. Classroom learners cannot learn the language of outside-the-classroom if they are not exposed to natural language environment. It is difficult to learn an occurring parameter or non-occurring one in a language through negative evidence.

2. Extremely highly-frequent form or pattern in the input can lead to pseudo-acquisition of that form or pattern. It may not really alter certain interlanguage sequences or prevent the emergence of non-target interlanguage forms.

3. Explanations by native speakers, L2 language teachers and consulting grammar books will not guarantee parameter resetting in L2 learners. They can not also provide adequate or satisfactory descriptions of the language input which learners actually need to reset an L2 parameter.

4. Input factors interact with other factors including the previously acquired language in shaping the interlanguage.
References


