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Noticing through Input Enhancement: Does it Affect Learning of the Conditionals?

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ABSTRACT

The purpose of the present study was to determine whether noticing through input enhancement had any impact on the acquisition of English conditional sentences in Iranian EFL learners. Two intact classes with 26 female students in each were chosen. A proficiency test administered at the commencement of the study showed that the two groups were homogeneous in terms of their language proficiency. The standardized achievement pretest signified that the two groups were unfamiliar with the target structures prior to the treatment. The study employed a pre test post test non-equivalent groups design with two groups. The Enhanced group (Experimental group) received a set of materials in which the If-clauses were enhanced through enlargement and different combinations of bolding, italics, and underlining; whereas, the Unenhanced group (Control group) received the same set of texts with no enhancement on If-clauses. The independent t-test computed between the means of the two groups showed that there was a statistically significant difference between the performances of the two groups on the achievement post test. Besides, a retrospection questionnaire for operationalizing noticing was used after the treatment. The analysis of the students' answers showed that input enhancement had helped the participants in the experimental group learn the conditional sentences.

Keywords: noticing, conditional sentences, input enhancement

Introduction

L2 learning involves selecting and encoding the information which is available in the environment. Schmidt (1990, 1993, 1994, & 1995) argues that paying attention to the input received and also having momentary subjective experience of noticing facilitate learning. Noticing is necessary for changing input to intake and refers to conscious attention to the occurrence of an event and hence its storage in the long term memory (Schmidt, 1995). Thus, in order for learning to take place, learners must attend to and notice certain language features that are relevant to the target system.

Schmidt (1995) distinguishes between two levels of awareness: awareness at the level of noticing and awareness at the level of understanding.



Noticing, for Schmidt, entails conscious registration of an event; understanding implies recognition of a general principle, rule, or pattern. It is awareness at the level of noticing that, according to Schmidt, is crucial for language learning. Conscious noticing to the linguistic input facilitates the restructuring of the learners' interlanguage system (Schmidt, 1995). However, as Schmidt puts forward, although awareness at the level of understanding is a facilitating factor, it is not necessary for L2 acquisition.

Schmidt's noticing hypothesis (1990, 1993, 1994, & 1995) has been the focus of much debate. Tomlin and Villa (1994) describe noticing as detection within selective attention, not necessarily involving awareness. According to Tomlin and Villa (1994) alertness, orientation, and detection are the three separate but interrelated functions involved in attention. Alertness refers to an overall "readiness to deal with incoming stimuli or data" (p. 190); whereas, orientation facilitates detection through directing attentional resources to a particular bit of information. Detection, according to Tomlin and Villa, is "the process that selects, or engages a particular and specific bit of information" (p. 192) and the minimally necessary aspect of acquisition through which "particular examples are registered in memory" (p. 193). Tomlin and Villa argue that detection is the attentional level at which L2 acquisition operates, because detected information can be registered in memory dissociated from awareness.

In an attempt to reconcile Schmidt's view with Tomlin and Villa's, Robinson (as cited in Song, 2007) has defined noticing as "detection plus rehearsal in short-term memory, prior to encoding in long-term memory" (p. 296). According to Robinson, if any stimulus is to be encoded in long-term memory, it first should be detected and then be activated by the information held in short-term memory. Robinson emphasizes the role of encoding and retrieval processes in learning and believes that noticing is crucial to language acquisition. According to Robinson (2003), noticing refers to

some part of information that enters working short term memory after receiving a major attention and is rehearsed. However, although Robinson claims that noticing is "the result of rehearsal mechanisms (maintenance or elaborative rehearsal) which send (however temporarily) information in short-term to long-term memory" (pp. 655-656), and that awareness is involved in this transfer, he agrees with Schmidt on the idea that without noticing no learning can take place.

More recently, Simard and Wong (as cited in Song, 2007) have attempted to reconceptualize attention. They argue that the main issue is to explore how different levels of attention and awareness may affect learning. They found out that a number of variables can influence attentional demands during L2 input processing. According to the model of attention proposed by Simard and Wong, alertness, orientation, detection, and awareness are different variables that interact and at the same time compete with one another in processing resources, though their interaction and competition depends on the task type, linguistic items, individual differences, and cognitive activities. As Philp (2003) has suggested, this seems a more feasible way of conceptualizing attention; therefore, noticing in this model is essentially detection accompanied by awareness.

Visual Input Enhancement

The external manipulation of input can affect intake and thus learning. In developing a set of ideas about the possible effects of input on learning, Sharwood Smith (as cited in Combs, 2004) believes that cognitive processes in second language learning are associated with the exposure of the learner to the type of input, which includes the target language system explanations. According to Sharwood Smith (1993) input enhancement has a decisive role in the input the learners receive and causes L2 proficiency to develop. The center of his discussion is how instruction facilitates the process of selection of input by L2 learners (Sharwood Smith, 1993) and explores the possible effects of focusing learners' attention to specific aspects of the input, which could

lead to more cognitive processing. As Schmidt (1994) puts forward, when a particular form is more salient in the exposed input, the chances of its selection by the L2 learner will increase.

Sharwood Smith (1993) proposes two types of positive and negative input enhancement. In positive input enhancement the correct forms in the input are emphasized whereas in negative input enhancement the incorrect forms are highlighted. An example of positive input enhancement would be visual input enhancement of a reading text in which the intended forms are bolded, underlined, capitalized, or italicized. An example of negative input enhancement would be the use of error flags which would focus learner's attention on their mistakes. Furthermore, two types of salience of input are introduced: internally derived salience (or noticing input because of learner's internal cognitive changes and processes) and externally derived salience (noticing input due to changing the manner of exposure). According to Combs (2004), recent studies in cognition and second language acquisition have scrutinized the role of input enhancement on the triggering of the underlying cognitive processes to see whether input enhancement affects the L2 learner's processing.

Conditionals

Conditional structures reflect human capacity to reflect upon various situations and to infer consequences on the basis of known or imaginary conditions. According to Celce-Murcia and Larsen-Freeman (as cited in Chou, 2000), learners of English as a second language (ESL) have difficulties in acquiring English conditionals due to the syntactic and semantic complexities embedded in conditional constructions. The typical English conditional construction is if p, then q. The if-clause is the antecedent, in which the speaker states the condition of reasoning and the then-clause is the consequent in which a speaker states the outcome of inferences (Traugott, as cited in Chou, 2000). The word then can be omitted without distorting the meaning of a conditional sentence.

In a study, Covitt (as cited in Norris, 2003) proved that oversimplified explanations, form, meaning, and time-tense relationship are the serious problems relevant to learning the conditional sentences. The traditional grammar oversimplified conditionals into merely three types, but a survey conducted by Hill (as cited in Norris, 2003) showed that there are nearly 324 distinct tense-modal sequences of conditionals. Nonetheless, the present study centers on five basic patterns which catch the majority of conditionals.

Likewise, Nayef and Hajjaj (as cited in Ke, 2004) summarizes three points in teaching conditionals: "forms of the verbs, the time reference of the verbs, and the meaning of the condition in each of the patterns"(p.140). They assert that in conditional sentences the agreement of the forms of the two verbs in the two clauses is the source of difficulty for the learners.

It is noteworthy that the main verbs in the biclausal structures of conditionals play a key role in forming them. In English conditionals, the verb form is changeable by adding one or double [+ past] markers whereby forming the past and past perfect. The problem of meaning contains two concepts of temporality and hypotheticality. Temporality is associated with time reference, while hypotheticality is related to the degrees of unreality.

Here, temporality is defined as an abstract notion as the indication of time, which is realized by the concrete term-time reference and tells when things happen with regard to the moment of speaking. However, time reference must be presented via verb tense. Tense is a grammatical category which signifies time and affects the shape of verbs. However, with this definition, the interpretation of time-tense relationship would be problematic. Since it is a notorious fact that past tense does not behave like past tense in counterfactual, the tense can't simply be a primitive element that refers to the past. There must be something more, that is, the concept of hypotheticality.

With respect to the degrees of hypotheticality, Comrie (as cited in Ke, 2004) takes it as a continuum that starts from uncertainty, tentativeness, and extends to hypotheticality or even counter-factuality. This concept, also, suggests that conditionals are the devices which speakers use to express their intention. Comrie claim sthat the form of the verbs (or modals) in the bi-clauses in conditionals display the speakers' degrees of doubt about the events; in other words, modality reflects the opinion and attitude of the speaker, conveying possibility, necessity, desirability or reality. Modals are a set of distinct forms used to signify modality. While these two terms are at times used unvaryingly, they are different in the sense that modality refers to the meaning expressed but modals refer to the grammatical devices which express it. Since modality is performed by modals, they make significant contribution to the interpretation of conditionals.

In order to investigate the effect of noticing on the acquisition of conditional sentences by Iranian EFL learners, the following research questions were proposed:

- 1. Does noticing through input enhancement have any effect on the learning of English conditional clauses in Iranian EFL learners?
- 2. Does input enhancement of the target forms (If-clauses) promote L2 learners' noticing of the forms (If-clauses)?

Method

Participants

The participants of the study were 52 female high school students whose English was at elementary level and were studying English in a language school in Qom. They were members of two intact groups and were randomly assigned to an experimental (Enhanced Input) and a control (Unenhanced) group. The classes met three times a week and each session lasted for 90 minutes; however, it is worth mentioning that instruction on reading passages in any of the two groups took 30 last minutes in each session. The New Interchange was the main text book in both of the classes.

Instrumentation

The first instrument of the study was a proficiency test that was used to show that there was no significant difference between the language knowledge of the two groups and consisted of three sections: grammar, vocabulary, and reading comprehension questions (20 multiple choice items in each section). The test was piloted with another group of learners in the same language school before administration and its reliability was computed through Cronbach's alpha (r = 0.82). Moreover, the content validity of the test was approved by two ELT teachers.

Another instrument used in the study was a 30 item multiple choice type achievement test on English conditional sentences which was administered to the participants before and after the treatment to determine whether there was any gain in the scores of the participants after the treatment. It is worth mentioning that some other grammatical structures were also included in the test so that the participants would not take much notice of what the test intended to measure.

The test was piloted and it was noticed that all the items met the B-index between 0.07 and 0.11. After the treatment, the B-index of the test was computed once again by comparing the answers of the learners in the pre test and the post test. The results were quite satisfactory and met the above mentioned criteria. Furthermore, the agreement of the achievement test was computed by estimating the threshold loss agreement through Subkoviak approach (as cited in Brown, 2005). The estimated agreement coefficient of the test was 0.82. In order to determine the content validity of the test, a table of specifications was prepared and the content validity of the test was approved by three ELT teachers who had 10 years of experience in teaching English.

Moreover, after the treatment, the participants in Enhanced group were asked to fill out a retrospective questionnaire to check whether they had noticed the visual enhancement during the reading task, and if they could identify or give examples of the enhanced input.

Procedure

To accomplish the goals of the study, the following procedures were carried on:

Pre test

In order to check the homogeneity of the two groups a proficiency test was administered and the results showed that the two groups were homogeneous in terms of their language proficiency. To ensure that the knowledge of the chosen target structures between the groups was not significantly different prior to the treatment, the achievement test on conditionals was administered.

Treatment

Target form

In order to draw the participants' attention to conditional structures, visual (also known as textual or typographical) input enhancement was used. Research findings (White, 1998; Doughty & Williams, 1998) prove this type of input enhancement to be one of the most implicit ways of drawing the learners' attention to form especially when the structures have a strong semantic or communicative value in them. Conditional sentences are among the most difficult structures for second language learners to master because the grammatical tense of the verb does not always match the meaning (Chou, 2000).

Through this study five types of conditional sentences were taught. The criterion for choosing these conditionals was the frequency of occurrence of these structures in English language text books. The five selected conditional types were present factual, future predictive, present counterfactual, past counterfactual, and mixed-time-reference counterfactual conditional. Table 1 below signifies the examples of conditionals (adopted from Celce-Murcia & Larsen-Freeman, 1999; Yule, as cited in Chou, 2000).

Table 1: The five selected English conditional types

Conditional type	Grammatical features of verb in IF-C	Grammatical features of verb in MC
Present factual If I wash the dishes, Sally dries them.	[-past]	[-past]
2. Future predictive (strong prediction) If it rains, I will stay home.	[-past]	[+modal]
3. Present counterfactual present If I were the President, I would make some changes.	[+past]	[+modal] [+past]
4. Past counterfactual 5a) If the challenger had focused on the economy, he would have been more successful. 5b) If the challenger focused on the	5a) [+ past] [+perfect]	5a) [+modal] [+ past] [+ perfect]
economy, he would have been more successful.	5b) [+past]	5b) [+modal] [+past] [+perfect]
5. Mixed-time-reference counterfactual (MTRC) (unreal past leads to unreal present situation)		
6a) If I had grown up in Paris, I would speak French. 6b) If I grew up in Paris, I would speak	6a) [+ past] [+ perfect]	6a) [+modal]
French.	6b) [+past]	6b) [+modal]

The treatment started one week after the pre test. As mentioned earlier, in each session of the classes 30 minutes were allocated to the reading task. Thus, a 9-hour instructional package of reading activities in 10 sections was designed for the study. The participants were provided with different reading passages which contained the conditional structures. The passages were taken from different sources including Chinese speakers' acquisition of English conditionals: Acquisition order and L1 transfer effects written by Chou (2000), Grammar 4 written by Seidl (1994), and On the Horn of Dilemma, retrieved from: http://www. English test.net. The passages incorporated a variety of topics. Some of them were stories with interesting themes and some were passages with everyday life topics; Laura's real life, The fox and the crow, Ross and Jack are eating in a cafeteria, Computer, Digital camera, and The problem of snoring are only a few to name.

In the Enhanced group, communicative language use was integrated with input enhancement. The If-clauses used in the passages given to this group were visually enhanced. After reading the passages, the participants were asked to complete certain tasks. The tasks required the learners to use the conditional sentences in different contexts. For example, in completing one of the tasks, the learners read a series of statements and

completed them with appropriate words.

The target forms were typographically enhanced through enlargement as well as different combinations of underlining, bolding, italicizing, and changing of the font. The type of enhancement varied from activity to activity to maximize the novelty of the technique and to increase the likelihood of paying attention to the forms. In order to ensure that enhancement will be at the implicit end of an implicit/explicit continuum, presenting grammar rules or providing learners with corrective feedback was avoided.

The Unenhanced group received the same set of passages; nevertheless, the conditional sentences were not enhanced. In this group, the participants read the passages, answered some reading comprehension questions, and did some grammar exercises. Likewise, the teacher provided some explicit grammatical explanations on the conditional sentences. Additionally, they were asked to form some sentences using conditional sentences and answer the questions posed by the teacher.

Post test

When the treatment was over, the same achievement test used as the pretest was administered to assess the participants' knowledge on the conditional sentences. The purpose was to examine whether there has been any significant difference in the scores of the learners after the treatment. Immediately after administering the posttest, a retrospection questionnaire was given to the Enhanced group for operationalizing Noticing. They were asked whether they had noticed the visual enhancement during the reading task, and whether they could identify the enhanced input or provide examples (see Appendix).

Results

The process of data analysis began with analyzing the data obtained from the proficiency test administered for examining the homogeneity of the participants. Table 2 below shows the group statistics for the experimental and control groups. In order to

decide upon the homogeneity of the variances of the two groups, an F-test was calculated. As it is shown in table 3, F (1,50) = 1.30, p=0.25 > 0.05 showed that the two groups were homogeneous in terms of their variances. Consequently, an independent t-test was run to compare the mean scores. The calculated t-value t = 1.74, df= 50, p = 0.08 > 0.05 showed that there was no statistically significant difference between the means of the two groups. Hence, the results enabled the researchers to conclude that the two groups were homogeneous in terms of their language proficiency.

Table 2: Group Statistics for the Proficiency Test

Groups	Groups N		SD	Std. Error Mean
Enhanced	26	37.03	6.50	1.27
Unenhanced	26	40	5.96	1.11

Table 3: T-test for the Proficiency Test

Levene's Test for Equality of Variances				t-test for Equality of Means					
Equal Variances	F	Sig.	t	df	Sig.(2-tailed)	Mean Difference	Std. Error Difference		
Assumed	1.30	0.25	1.74	50	0.08	2.96	1.69		

The next step was to ensure that the participants were unfamiliar with the selected target structures. Therefore, an achievement grammar test on conditional sentences was administered to the participants before and after the treatment. The descriptive statistics is shown in table 4:

Table 4: Group Statistics on the Achievement Pretest

Groups	oups N		SD	Std. Error Mean	
Enhanced	26	10.346	2.544	0.490	
Unenhanced	26	11.576	2.335	0.458	

The comparison of the means on the pre test (t = 1.81, df= 50, p= 0.07> 0.05) indicated that there was no statistically significant difference between the performance of the experimental and control groups in the pretest. Therefore, it could be assumed that neither of the groups was familiar with conditional sentences prior to the treatment, and hence they were homogeneous in this respect too.

Table 5: T-test for the Achievement Pretest

Levene's Test for Equality of Variances				t-test for Equality of Means				
Equal Variances	F	Sig.	t	df	Sig.(2- tailed)	Mean Difference	Std. Error Difference	
Assumed	0.29	0.86	1.81	50	0.07	1.23	1.67	

However, the comparison of the mean values of the two groups on the post test indicated that the difference between the means of the two groups was statistically significant (t = 3.61, df = 50, p = 0.001 > 0.05) and the Enhanced group could outperform the Unenhanced group on the achievement post test. Table 6 below indicates the group statistics for the achievement post test and Table 7 signifies the significant t-value on the post test.

Table 6: Group Statistics for the Achievement Posttest

Groups	N	Mean	SD	Std. Error Mean	
Enhanced	26	21.923	3.697	0.725	
Unenhanced	26	17.730	4.609	0.903	

Table 7: T-test for the Achievement Posttest

Levene's Test for Equality of Variances				t-test for Equality of Means				
Equal Variances	F	Sig.	t	df	Sig.(2-tailed)	Mean Difference	Std. Error Difference	
Assumed	2.484	0.121	3.618	50	0.001	4.192	1.158	

The last step was asking the participants in the Enhanced group to answer the retrospective questionnaire. All of the 26 learners in the Enhanced group reported that they had noticed some kind of visual enhancement in the reading texts and the majority could describe and give examples of exactly what was enhanced. Only three out of the 26 students who were not able to provide more-or-less accurate examples of the enhanced forms could partially recall that the enhanced input dealt with the past and past perfect tenses, and could provide sample sentences which were written in the form of past perfect tense. Hence, all of the 26 students in the Enhanced group did remember that some parts of the text were enhanced. Moreover, they believed that they were successful in remembering and using conditional sentences in class discussions.

Discussion

The positive answer to the first research question

shows that input enhancement has a significant effect on learning the target structures. The performance of the two groups of English learners on the achievement post test indicates that the Enhanced group could outperform the Unenhanced group on the knowledge of conditional sentences. It is signified that the learners' ability to recognize and produce appropriate forms would increase when the learners' attention is focused on a particular grammatical structure in the course of doing different language tasks. Furthermore, the study suggests that for learning grammatical forms noticing and awareness of the target forms are necessary.

Traditional structure-based grammar teaching approaches incorporate an explicit discussion of the grammatical structures and their use in different isolated sentences. However, the result of this study shows that when the learners focus their attention on certain structures which are prominent in the text, they learn with much ease. Furthermore, practicing grammatical structures through meaningful contexts and providing learners with opportunities to practice meaningfully would enhance the learning of the target structures. Moreover, the techniques of bolding, italicizing, and underlining in the text would contribute to the implicit learning of grammar forms.

It is worth mentioning that the result of the present study is in line with Schmidt's (1995) claim that noticing is necessary and effective in language learning. The finding also supports other input enhancement studies that have reported the ability of the learners in recognizing and producing forms correctly when their attention is focused on a particular linguistic item while doing communicative activities (White, Spada, Lightbown, & Ranta, 1991; White, 1998).

Methodologies for studying the role of awareness and noticing in learning have included both off-line verbal report measures, such as diary entries, questionnaire responses, and immediate and delayed retrospection, and on-line measures such as protocols. The positive answer to the second research question obtained via the analysis of the learners' responses to the retrospection questionnaire shows that learners had noticed the grammatical structures while they were reading passages and subsequently doing different related tasks. Their ability in recalling the structures they had been exposed to and their ability in using them in class discussions show the constructive nature of input enhancement in teaching grammatical structures. Besides, the capability of the learners in providing examples for conditional sentences proves the effectiveness of the technique.

Conclusion

The result of this study may help teachers and practitioners in teaching grammatical structures to English language learners. Input enhancement is a technique which can be used for drawing students' attention to certain grammatical features of input and increase the perceptual salience of the structure. This, also, would help students to focus on certain structures in order to learn them. Paying attention to language forms through input enhancement would be facilitative and can assist learners in improving their language accuracy.

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Appendix

Retrospection Questionnaire

- 1. Did you notice some of the sentences in the reading texts more than the others?
- 2. What do you think was the difference between those sentences and other sentences in each of the passages?
- 3. Did you have knowledge of those structures before?
- 4. Do you remember what kinds of structures were emphasized? Could you provide any examples?
- 5. Did you try to use those forms in your class discussion?
- 6. Did you learn any grammar point from reading the passages?

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