Interventionist (Explicit and Implicit) versus Non-interventionist (Incidental) Learning of Phrasal Verbs by Iranian EFL Learners

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Abstract—Phrasal verbs are commonly used in spoken English. Due to the problems experienced by Iranian EFL learners in acquiring phrasal verbs, this study investigated the effectiveness of interventionist and non-interventionist approaches to learning (both recognition and production) of phrasal verbs. To this end, 63 Iranian EFL learners in three groups, with equal numbers of participants, participated in the study: a non-interventional control group, an experimental implicit group, and an experimental explicit group. They were homogenized through a TOEFL test and were asked to complete a pre-test to ascertain their unfamiliarity with the target phrasal verbs. Then, they were given 10 different passages followed by comprehension questions. After a 10- session treatment period, the recognition and production of these target phrasal verbs were tested through a post-test. The results of the ANOVA revealed the superiority of interventionist groups over the non-interventionist group in both recognition and production of phrasal verbs. In addition, the interventionist explicit group greatly outperformed the interventional implicit group in both recognition and production. This effect of interventionist learning implies the necessity of a more balanced approach involving both implicit and explicit practice and instruction in order to enhance the acquisition of phrasal verbs.

Index Terms—explicit instruction, implicit instruction, incidental learning, input enhancement, intentional learning, interventionist instruction, marginal gloss, non-interventionist instruction

I. INTRODUCTION

The potential of second language vocabulary knowledge, as a predictor of L2 learner’s proficiency, has attracted more interest among second language teachers and researchers. Vocabulary learning is a demanding task for second language learners. When it comes to phrasal verbs, it gets even harder. Now, the field of second language pedagogy in response to increasing concern for vocabulary knowledge concentrates more on second language (L2) vocabulary instruction. In fact the need for finding the most appropriate and the least burdensome trends in vocabulary instruction is felt more than ever.

Phrasal verbs create special problems for language learners because there are so many of them and the combination of verb and particle seems so often completely random (Cornell, 1985; Side, 1990). Language learners and their teachers have always shown a keen interest in finding the most influential ways of learning (both recognition and production) of these phrasal verbs. There has always been a controversy over the effectiveness of providing learners with comprehensible input, input enhancement, output, and whether one or a combination of some is more beneficial in the process of learning (Krashen, 1998; White, 1998; Izumi, 2002).

A. Theoretical Overview

1. Phrasal verbs

Phrasal verbs are used a great deal, especially in spoken English. Therefore, it is important for a student to recognize their meaning at least. If he wants to learn to speak English naturally and well, he must become able to use these verbs properly. Phrasal verbs are a feature of the “Germanic language family.” English also belongs to this language family. (Schmitt & Siyanova, 2007). Learners who are not German or Scandinavian may be unfamiliar with these multi-word verbs and lack the strategies to deal with them. As a result, L2 learners mostly tend to avoid this linguistic category that is absent in their L1, and use the one-word verb instead (Ziahosseini, 1999; Schmitt & Siyanova, 2007).

A number of studies consider phrasal verbs as a subcategory of the more general lexical phenomenon of formulaic language. Both L1 and L2 language learner researchers have explored formulaic Language under a variety of labels: “prefabricated routines and patterns,” “imitated utterances,” “formulas” or “formulaic units” (Myles, Hooper, & Mitchell, 1998; Simpson & Mendis, 2003). Bardovi-Harlig (2002) reported that despite the difficulty in detecting form-meaning associations by the learners through learning formulaic language, formulaic use may be traced in learner’s interlanguage “beyond the earliest stage.”
Despite the fact that phrasal verbs are difficult for L2 learners, phrasal verb acquisition has not received adequate attention in the field of second language research (Bardovi-Harlig, 2002; Liu, 2003). Over the past two decades, the ultimate objective of language teaching was to increase the communication abilities of learners in order to enable them to communicate genuinely, spontaneously and meaningfully in the second language. For this purpose knowing vocabulary, especially the words or combinations such as collocations or phrasal verbs that are used in everyday communications, is one of the prerequisites for producing fluent and socially appropriate language.

2. Vocabulary learning and input

Krashen (1983) proposed “input hypothesis” in order to emphasize the primacy of meaning and the importance of vocabulary through the unconscious process of language acquisition. In this view language is essentially its lexicon and the quantity of lexicon exceeds far beyond the amount of other parts of language (Celce-Murcia, 2001; Mitchell & Myles, 2004).

Most L2 learning researchers used the term incidental learning in connection with the learning of vocabulary through reading. Krashen (1983, as cited in Mitchell & Myles, 2004), in his input hypothesis, remarked that we acquire vocabulary and spelling through exposure to comprehensible input. The reason beneath using incidental learning mostly in vocabulary learning is that the concept of incidental is applicable both to abstract and declarative knowledge whereas the concept of intentional is just used for factual knowledge. Learning vocabulary from context is often seemed as something opposed to the intentional learning and teaching of vocabulary. As far as reading for text comprehension and reading to learn about a topic is concerned, it is apparent that more able readers learn words incidentally when reading for these purposes (Lauffer & Hulstijn, 2001; Swanborn & de Gloper, 2002).

According to Hulstijn (1996, as cited in Pulido, 2003: 241), “during reading, easily guessed words may not be better retained because of lack of need to sufficient attention to the new word form.” Coady (1997, as cited in Krashen and Mason, 2004) believed that most vocabulary learning occurs through reading but according to him there is a “threshold level” of vocabulary knowledge below which a learner cannot read well enough to learn new vocabulary through reading.

3. Vocabulary learning and noticing

Schmidt (1990) proposed the Noticing Hypothesis. Noticing, i.e. attention accompanied by some low level of awareness, is the necessary and sufficient condition for converting input to intake.” He believed that noticing is a necessary condition for second language acquisition. From a cognitive perspective, Tomlin and Villa (1994) proposed three components for the role of attention in second language acquisition: Alertness, orientation, Detection. Robinson (1995, as cited in Robinson, 2005), inspired by both Schmidt’s and Tomlin and Villa’s idea about attention, reported that noticing includes detection and rehearsal in short-term memory. R. Ellis (1997, as cited in Cross, 2002) suggested that input becomes intake via noticing language features in input.

There is no doubt that L2 learners can achieve considerable success in contexts where they are exposed to comprehensible input. However, such input alone does not necessarily lead learners to high level of development in the L2. Sometimes the input does not become intake. To improve learner’s language learning they should be provided with a variety of consciousness-raising activities. Sharwood Smith (1991) has proposed that the term consciousness-raising can be replaced by “input enhancement” because he believed that the instructor can only know that some aspects of input are highlighted in some way, but it is impossible to tell whether the learner’s consciousness has been raised.

Different studies reported a variety of findings about the relation between glossing, reading comprehension, and incidental vocabulary learning. In a number of these studies, students who had access to glosses before reading or during the reading process were able to recall more of the text than those without glossing aids. But in some other studies, there were no significant impacts of gloss in the process of learning (Holley & King, 1971; Davis, 1989; Hulstijn, Hollander, & Greidanus, 1996; Lomicka, 1998; Yoshii, 2006; Yanguas, 2009).

4. Vocabulary learning and output

Following the failure of the French Immersion Programmes in changing L2 learners into proficient L2 users through providing them with comprehensible input, the “input hypothesis” was brought into question. As an answer to this deficiency, Swain (1993, as cited in Swain, 2005) proposed “output hypothesis” that was in accordance with Schmidt’s “noticing the gap principle.” In this view “output” was considered as a “process” and not a “product” of learning. Encouraging learners to produce language can lead them to consciously notice some of their linguistic problems (Swain & Lapkin, 1995; Izumi, 2002 & 2003; Swain, 2005).

Swain (1995:127, cited in Izumi, 2003) Stated: [i] n speaking and writing learners can ‘stretch’ their interlanguage to meet communicative goals. They might work towards solving their linguistic limitations by using their own internalized knowledge, or by cueing themselves to listen for a solution in future input. Learners (as well as native speakers, of course) can fake it, so to speak, in comprehension, but they cannot do so in the same way in production…. [t] o produce, learners need to do something; they need to create linguistic form and meaning and in so doing, discover what they can and cannot do.

It implies that the role of comprehensible output is entirely independent of the role of comprehensible input, because the kind of processing that is necessary for comprehension is different from the type of processing which is required for production. This indicated that it is not necessary to understand a complete message for some vocabulary learning to take place. It implies that learners need “pushed output” for the accurate performance.
B. Previous Studies

Nobuyoshi and Ellis (1993) studied the impact of comprehensible output on EFL learner’s accuracy of production. The results indicated that pushing learners to produce language resulted in immediate improved performance. Ellis, Tanaka, and Yamazaki (1994) in a study examined the vocabulary acquisition of EFL Japanese learners under three conditions. The results indicated that learners need “pushed output” for the accurate performance. Sadighi and Tagharchi (2001) studied the impact of intervention in the form of explicit teaching on phrasal verb learning of intermediate Iranian EFL learners. The results suggested that exposure alone is not sufficient. Attention drawing tasks and techniques beside learner-treatment also play significant roles in learning. Izumi (2002) in a study investigated the facilitative effects of input and output enhancement on the acquisition of participants of various nationality types but at the same level of language proficiency. The results revealed that the participants who engaged in the input- output treatment outperformed those who were exposed to input just for the purpose of comprehension in learning.

C. Purpose of the Study

The purpose of this study was to find out the impact of interventionist, non-interventionist learning on recognition and production of phrasal verbs by Iranian EFL learners. As mentioned before, learning of phrasal verbs is considered as one of the most difficult tasks for language learners that should be tackled with. This study tended to compare phrasal verb learning through explicit teaching and noticing with its incidental learning. The main aim of this study was to measure the effect of interventionist and non-interventionist approaches on the comprehension and production of these phrasal verbs by Iranian EFL learners. The researchers sought to answer the question whether input enhancement alone or its combination with production tasks under instructor’s supervision has more significant impacts on the process of learning phrasal verbs. The research questions and the null hypotheses under investigation in this study were as follows:

1. Is there any significant difference between the effects of interventionist (explicit teaching and noticing), and non-interventionist (incidental learning) on the recognition of phrasal verbs by Iranian EFL learners?
2. Is there any significant difference between the effects of interventionist (explicit teaching and noticing), and non-interventionist (incidental learning) on the production of phrasal verbs by Iranian EFL learners?

II. METHODOLOGY

A. Participants

The subject pool consisted of three intact classes of intermediate female students at Milad Language Institute located in Tehran. The number of students totalled 63. In each class 21 students were enrolled. One group of the students in this study studied the third book of the Interchange Series (Richards, Hull, & Proctor, 2005). Students enrolled in these classes had been studying at the institute from Intro interchange (Richards, 2005) or had been recognized as suitable for these classes through the institute’s placement test and an oral interview. The participants’ ages ranged from 13 to 17. They were junior high school or senior high school students. To decide if the subjects formed a homogeneous sample, the vocabulary and reading sections of the TOEFL test were administered to them at the same time. After extracting participants’ scores a one-way ANOVA was used to compare the mean scores of the three groups on the vocabulary and reading parts of the TOEFL. The results showed that there was no significant difference among the mean scores of the three groups of participants.

Therefore, it is assumed that these students formed a homogeneous sample. These three classes formed the three groups of this study:

1. Non-interventional group [(N) group]:
   The participants in this group were expected to learn target phrasal verbs incidentally.
2. Interventional Implicit group [(II) group]:
   The participants in this group were expected to learn target phrasal verbs by the intervention of marginal glosses as an attention-drawing factor.
3. Interventional Explicit group [(IE) group]:
   The participants in this group were expected to learn target phrasal verbs by the aid of marginal glosses and some production tasks.

Participants in the (N) group were considered as control group of this study. Both (II) and (IE) groups were considered as experimental groups.

B. Instrumentation

Four types of instrumentations including reading materials, test of homogeneity, pre-test, and post-test, were utilized to address the research questions in this study.

1. Reading materials

The passages used in this study were selected from two books: English Phrasal Verbs (Watcyn-Jones, 2001) and English Phrasal Verbs in Use (McCarthy & O’Dell, 2004). These passages were typed in a way that there was a marginal space on their right side for having the English definition or a one-word verb synonym for new phrasal verbs. At the end of each text, there were reading comprehension questions. In addition to these comprehension questions,
passages were accompanied with three types of tasks; reconstruction tasks (in the form of paraphrasing), fill in the blanks, and also story-telling tasks (by using pictures).

2. Tests

The vocabulary and reading part of the TOEFL was administered to ensure the homogeneity of the participants. This test included 90 multiple-choice items.

Pre-test: The purpose of pre-test (that was administered in the form of checklist) was to recognize a set of phrasal verbs that were not known by any of the subjects of the study. It consisted of 52 phrasal verbs; all selected from reading passages and were supposed as unfamiliar phrasal verbs for the participants of this study. Participants were asked to translate these phrasal verbs in either English or Persian. Based on the results of this test 40 phrasal verbs that were entirely unknown by the participants were selected as the target phrasal verbs in this study. The pre-test in this study was in the form of checklist. This test format had been successfully used in other studies (e.g. Knight, 1994; Kim, 2006).

Post-test: The post-test in this study was designed by the researcher. This test involved two separate parts with the equal number of items. The recognition part included 20 multiple-choice questions for 20 out of the 40 phrasal verbs that had been covered during the treatment. The production part involved 20 short texts (in the form of 2 or 3 line conversations) in order to provide the learner’s with the proper and sufficient context for the production of intended phrasal verbs.

In order to revise the first version of the test, it was administered to a group of 25 intermediate female students of the same age range at the same institute. Item facility of all items (both recognition and production) of the test was calculated. Items with facility index beyond 0.63 or below, 0.37 were deleted from the pool of items. According to Farhady, Ja’farpur, and Birjandi (1994), items with facility indices beyond 0.63 are too easy, and items with facility indices below 0.37 are too difficult.

The reliability of the text was calculated by using KR21 formula. The reliability index for the recognition part was moderate (0.51), and the reliability of the production part was good (0.69).

In order to determine the content validity of the test, the views of researcher’s reader and advisor as well as some other experts were obtained and applied.

C. Data Collection Procedure

In the second session of the course, the vocabulary and reading part of the TOEFL was administered to ensure the homogeneity of the participants. In the following session the pre-test that was in the form of a checklist was administered to choose the target items of the research. After designating target phrasal verbs through the results of the pre-test, the researcher started the treatment in the fourth session and continued for 10 consecutive sessions (nearly 4 weeks). At the thirteen session of the treatment, the production part of the post-test was administered to all three groups and the recognition part was administered in the following session.

Procedure in the control group: Participants in this group were just asked to skim the text. The time for skimming differed from 3 to 5 minutes depending on the text difficulty. They were then asked to answer the 3 comprehension questions just based on their text comprehension without any need for using phrasal verbs.

Procedure in the experimental groups: Participants in these groups received the same passages provided with marginal glosses. Both groups were provided with a brief explanation about phrasal verbs before working on texts. They had 3 to 5 minutes to skim the text. Then they were asked to answer the post-reading comprehension questions irrelevant to target phrasal verbs. After answering the comprehension questions, the interventional explicit group was asked to do production- based post-reading tasks.

D. Data Analysis

In this study, all of the test data were scored by giving one point for a correct response and zero for an incorrect response. For the production tests, only the production of the phrasal verb that was targeted in the given conversation was considered as correct. Errors related to spelling were ignored as long as they didn’t change the meaning of the phrasal verb.

This study included a descriptive statistics for all groups, and a one-way ANOVA was used to measure the differences in these three groups. Then, using a Scheffé test, the results of the groups were compared.

III. RESULTS

After the administration of the post-test, the results obtained from these three groups on both recognition and production of phrasal verbs were compared by using a one-way ANOVA. Then in order to ensure where differences reported by ANOVA exactly occurred, a Scheffé test was used.

A. Homogeneity Results

Table 1 displays the descriptive statistics on the vocabulary and reading part of the TOEFL test that were administered to 63 students studied at the intermediate level of language proficiency at the Milad Language Institute. As the table indicates, there is a slight difference among means of these three groups of participants.
A significant difference between the mean scores of the interventionist (explicit and implicit) and non-interventionist groups was rejected. Therefore, the first null hypothesis, stating that there is no significant difference between the effects of interventionist (explicit and implicit) and non-interventionist learning on the recognition of phrasal verbs, was rejected. Based on these results, it can be concluded that there was no significant difference between the mean scores of the three groups on the reading and vocabulary parts of the TOEFL test. That is to say, the three groups were homogeneous in terms of their proficiency prior to the present study.

A one-way ANOVA was run to compare the mean scores of the three groups on the reading and vocabulary parts of the TOEFL test. The F-observed value is .24 (Table 2). This amount of F-value at 2 and 60 degrees of freedom is lower than the critical value of F, i.e. 3.15.

Based on these results, it can be concluded that there was no significant difference between the mean scores of the three groups on the reading and vocabulary parts of the TOEFL test. That is to say, the three groups were homogeneous in terms of their proficiency prior to the present study.

### Table 1: Descriptive Statistics of TOEFL Test by Interventionist and Non-Interventionist Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>95% Confidence Interval For Mean</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incidental</td>
<td>21</td>
<td>48.71</td>
<td>3.48</td>
<td>.75</td>
<td>47.13 to 50.29</td>
<td>41.00</td>
<td>54.00</td>
</tr>
<tr>
<td>Implicit</td>
<td>21</td>
<td>48.33</td>
<td>3.52</td>
<td>.76</td>
<td>46.72 to 49.93</td>
<td>43.00</td>
<td>52.00</td>
</tr>
<tr>
<td>Explicit</td>
<td>21</td>
<td>49.09</td>
<td>3.52</td>
<td>.76</td>
<td>47.49 to 50.69</td>
<td>39.00</td>
<td>54.00</td>
</tr>
<tr>
<td>Total</td>
<td>63</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 2: One-Way ANOVA for the TOEFL Test by Interventionist and Non-Interventionist Groups

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>6,095</td>
<td>2</td>
<td>3.048</td>
<td>.248</td>
<td>.782</td>
</tr>
<tr>
<td>Within Groups</td>
<td>738.762</td>
<td>60</td>
<td>12.313</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>744.857</td>
<td>62</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### B. Recognition Results

The descriptive statistics of the three groups on the recognition part of the post-test is presented in Table 3. The overall test results reveal that the interventionist group with mean scores of 14.85 (explicit) and 10.71 (implicit) outperformed the non-interventionist (incidental) group whose mean was 9.90 on the recognition of the phrasal verbs.

### Table 3: Descriptive Statistics of the Recognition of Phrasal Verbs by Interventionist and Non-Interventionist Groups

<table>
<thead>
<tr>
<th>Type of teaching</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>95% Confidence Interval For Mean</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Incidental</td>
<td>21</td>
<td>9.90</td>
<td>1.48</td>
<td>.32</td>
<td>9.23 to 10.57</td>
<td>7.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Implicit</td>
<td>21</td>
<td>10.71</td>
<td>2.55</td>
<td>.55</td>
<td>9.55 to 11.87</td>
<td>6.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Explicit</td>
<td>21</td>
<td>14.85</td>
<td>1.76</td>
<td>.38</td>
<td>14.05 to 15.66</td>
<td>12.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>63</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A one-way ANOVA is run to compare the results of the recognition of phrasal verbs by interventionist (explicit and implicit) and non-interventionist (incidental) groups. The F-observed value is 37.57 (Table 4). This amount of F-value is greater than the critical value of F at 2 and 60 degrees of freedom, i.e. 3.15.

Since the observed F-value exceeded its critical value, it can be concluded that there are significant differences between the phrasal verbs as recognized by interventionist (explicit and implicit), and non-interventionist (incidental) learning groups.

### Table 4: One-Way ANOVA for the Recognition of Phrasal Verbs by Interventionist and Non-Interventionist Groups

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>296.413</td>
<td>2</td>
<td>148.206</td>
<td>37.573</td>
<td>.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>236.667</td>
<td>60</td>
<td>3.944</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>533.079</td>
<td>62</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The post-hoc Scheffe’s test was run to compare the mean score of the interventionist group (explicit and implicit) with the mean of the non-interventionist (incidental) group on the recognition of phrasal verbs.

According to the results displayed in Table 5, the mean difference of 2.88 (p < .05) indicates that there is a statistically significant difference between the interventionist and non-interventionist’s mean scores on the recognition of phrasal verbs. Thus, the interventionist group outperformed the non-interventionist group on the recognition of phrasal verbs. Therefore, the first null-hypothesis, stating that there is no significant difference between the effects of interventionist (explicit and implicit) and non-interventionist (incidental) learning on the recognition of phrasal verbs by Iranian EFL learners, was rejected.
TABLE 5: 
POST-HOC SCHEFFE’S TEST FOR INTERVENTIONIST VS. NON-INTERVENTIONIST GROUPS ON RECOGNITION OF PHRASAL VERBS

<table>
<thead>
<tr>
<th>(I) Groups</th>
<th>(J) Groups</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig. 4</th>
<th>95% Confidence Interval for Difference 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interventionist</td>
<td>Non-interventionist</td>
<td>2.881 *</td>
<td>.699</td>
<td>.000</td>
<td>1.484 - 4.278</td>
</tr>
</tbody>
</table>

* The mean difference is significant at the .05 level.

The following graph displays the means of the three groups on the recognition of phrasal verbs.

Figure 1: Recognition of phrasal verbs by the three groups

C. Production Results

Table 6 displays the descriptive statistics of the three groups on the production part of the post-test. In this table, the interventionist group with mean scores of 5.61 (explicit) and 1.33 (implicit) outperformed the non-interventionist (incidental) group whose mean was 1.14 on the production of phrasal verbs.

<table>
<thead>
<tr>
<th>Type of teaching</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>95% Confidence Interval For Mean</th>
<th>Minimum m</th>
<th>Maximum m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-interventionist</td>
<td>Incidental</td>
<td>21</td>
<td>1.14</td>
<td>.96</td>
<td>.21</td>
<td>1.58 - 1.58</td>
<td>.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Interventionist</td>
<td>Implicit</td>
<td>21</td>
<td>1.33</td>
<td>1.19</td>
<td>.26</td>
<td>1.87 - 1.87</td>
<td>.00</td>
<td>4.00</td>
</tr>
<tr>
<td></td>
<td>Explicit</td>
<td>21</td>
<td>5.61</td>
<td>2.31</td>
<td>.50</td>
<td>6.67 - 6.67</td>
<td>2.00</td>
<td>9.00</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>63</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A one-way ANOVA was run to compare the results of the production of phrasal verbs by interventionist (explicit and implicit), and non-interventionist (incidental) learning groups. The F-observed value was 52.35 (Table 7). This amount of F-value is greater than the critical value of F at 2 and 60 degrees of freedom, i.e. 3.15.

Since the observed F-value exceeded its critical value, it can be concluded that there is significant difference between the phrasal verbs as produced by interventionist (explicit and implicit), and non-interventionist (incidental) learning groups.

<table>
<thead>
<tr>
<th>ONE-WAY ANOVA FOR THE PRODUCTION OF PHRASAL VERBS BY INTERVENTIONIST AND NON-INTERVENTIONIST GROUPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sum of Squares</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Between Groups</td>
</tr>
<tr>
<td>Within Groups</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

The post-hoc Scheffe’s test was run to compare the mean score of the interventionist group (explicit and implicit) with the mean of the non-interventionist (incidental) group on the production of phrasal verbs.

The mean difference of 2.33 (p < .05) indicates that there is a statistically significant difference between the interventionist and non-interventionist’s mean scores on the production of phrasal verbs (Table 8). Thus, the second null-hypothesis, stating that there is no significant difference between the effects of interventionist (explicit and implicit)
and non-interventionist (incidental) learning on the production of phrasal verbs by Iranian EFL learners, was also rejected.

### Table 8: Post-hoc Scheffe’s Test for Interventionist vs. Non-interventionist Groups on Production of Phrasal Verbs

<table>
<thead>
<tr>
<th>Groups</th>
<th>(I) Groups</th>
<th>(J) Groups</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig. *</th>
<th>95% Confidence Interval for Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interventionist</td>
<td>2.333</td>
<td>Non-interventionist</td>
<td></td>
<td>.637</td>
<td>.001</td>
<td>1.059, 3.608</td>
</tr>
</tbody>
</table>

* The mean difference is significant at the .05 level.

The following graph displays the means of the three groups on the production of phrasal verbs.

![Production of phrasal verbs by the three groups](image)

**Figure 2: Production of phrasal verbs by the three groups**

### IV. Discussion

The results of this study clarified that not only did the interventionist group outperform the non-interventionist group on both recognition and production of phrasal verbs, but also the performance of those engaged in interventional explicit group (output and input enhancement treatment) was superior to the performance of interventional implicit (input enhancement) group.

In what follows, the researcher will seek to explain the crucial reasons (either theoretical, or on the basis of previous studies) behind the success of interventionist over non-interventionist groups in both recognition and production of phrasal verbs. An attempt will be made to explain the superiority of interventional explicit (output and input enhancement) group through the interventionist category of this study.

#### A. Incidental Learning of Phrasal Verbs

The results obtained through the incidental group show any significant learning of phrasal verbs. This is in line with the result of study did by Hulstijn, Hollander, and Greidanus (1996). In that study learners were not successful in incidental learning because sometimes:

1. Learners fail to notice the presence of unfamiliar words when they do not obstruct the process of text comprehension.
2. Learners believed that they know the word meaning when in fact they do not. Therefore they guess wrong or unrelated meanings for the word.
3. This failure may also be due to the lack of frequency, since just a single encounter with a new word cannot guarantee its acquisition.

#### B. Input Enhancement and Learning of Phrasal Verbs

The results indicated that typographical input enhancement in the form of marginal gloss didn’t have significant impacts on either recognition or production of these phrasal verbs. The results that we arrived at here are in line with those of White (1998). In her study she showed that although according to Schmidt (1990) attention played a vital role in the conversion of input to intake, the role of detection as a central component of attention, as was introduced by Tamlin and Villa (1994), should not be ignored. Therefore in this study although these marginal glosses made these phrasal verbs salient and helped learners to bridge their language gaps in the process of text comprehension, they didn’t go through further cognitive processing for acquisition.
In this study, mere exposure to phrasal verbs seemed insufficient. It is also possible that other forms of input enhancement have more positive effect on implicit learning of phrasal verbs through noticing.

C. Explicit Teaching of Phrasal Verbs

In this study the interventional explicit group outperformed both interventional implicit and non-interventional groups for these reasons:

**Pushed output**: Considering output as an important factor in language acquisition is in line with the results of the study did by Izumi (2002). In that study, pushed output that was induced in the form of production tasks may draw learner’s attention not only to target features but also to their interlanguage problems through their production attempts. Therefore, pushed output may lead learners to process the input effectively for their lexical development.

**Quantity of attention**: In this study both output and input enhancement tended to draw learners attention to phrasal verbs. Izumi (2002) believed that while through using input enhancement, attention is induced by external means; attention in output arises internally through production process. Therefore in the present study the accompaniment of output and input enhancement for the explicit teaching group can increase the quantity of attention paid to target features and facilitate the process of learning.

**Depth of processing**: More important than the quantity of attention is the quality of attention or depth of processing in the acquisition of these phrasal verbs. Izumi (2002) believed that quality of attention or depth of processing might fluctuate through different processing and various tasks. Hence, while in this study, the shallow processing level of input enhancement concurred with the deeper level of processing in production tasks, superior performance was evidenced.

**Explicitness**: Considering an implicit/explicit continuum, input enhancement alone was considered as an implicit way of drawing learner’s attention to these phrasal verbs. On the other hand, on the more explicit side of the continuum is placed; a combination of output, input enhancement that is accompanied with the explicit explanations about the nature and the construct of phrasal verbs and correction feedbacks on the part of the teacher through performing production tasks by learners. This would help them to trigger further cognitive processes. It would enable learners to reach deeper levels of processing and stronger memory traces (White, 1998, Izumi, 2002).

V. CONCLUSION AND IMPLICATIONS

Considering the results of this study, it seems that the idea of incidental learning as accidental, unintentional learning of information is ineffective that for it to happen there is a need for more exposure to target lexical items. Indeed in EFL contexts in which the only source of comprehensible input is classroom exposure and practice, attention drawing activities should be considered as an indispensable part of language teaching. However some means of internal attention drawing activities like production tasks through deeper levels of processing may strengthen the connections in the process of learning and result in more significant improvements. The other point to be mentioned is that we should always consider the facilitative role of instruction in the process of learning.

Researchers during the past decades confirmed that more than incidental exposure might be important for second language acquisition to occur. According to Brown (2001: 377) vocabulary learning requires “good grounds for intervening at the metacognitive level.”

This intervention does not imply the rebirth of the same traditional burdensome methods of vocabulary teaching (Brown, 2001; Pica, 2005). Therefore, from this viewpoint, lexical items such as phrasal verbs have a central role in meaningful language acquisition. Learners should be guided through the provision of balanced amounts of implicit and explicit practices and instructions to the superior acquisition of these lexical items. The balanced intervention in the process of learning implies the congruity of input, input enhancement and output doses.

Curriculum developers should pay more careful attention to the role of output in second language vocabulary learning, especially some lexical units like phrasal verbs that are to some extent more common in informal language. Therefore, justified time and energy should be allocated to the provision of students with tasks that guide them to controlled production accompanied with the instructor’s feedback and support.

REFERENCES


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