The Effect of Explicit and Implicit Corrective Feedback on Iranian University Students’ Written Grammar in Virtual and Physical Contexts

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Abstract
Instructors have many options to give feedback to their students’ writings. The purpose of the present quasi-experimental study was to investigate the effect of corrective feedback on learners’ errors on written grammatical features. In particular, the type of feedback (explicit vs. implicit correction) in different contexts (virtual vs. physical) was investigated. 80 lower-Intermediate Iranian EFL learners studying in Science and Technology University in Tehran were selected based on the results of Quick Placement Test. Using match-paired design, the participants were divided into four equal groups, including explicit physical, implicit physical, explicit virtual and implicit virtual. Two topics were chosen from the TOEFL IBT (2006), one used for pretest and one for posttest conducted after providing the required feedback to the groups. For descriptive statistics, the mean, standard deviation, minimum and maximum scores were provided. For inferential statistics, one-way ANOVAs and the related post hoc tests were conducted. The results of one-way ANOVA conducted for the pretest showed that the four groups were homogeneous. The results of ANOVA for posttest showed that after providing feedback to each group, the students performed differently. According to the results of Scheffe post hoc test, the following findings regarding groups’ performances were found: explicit-physical group had a better performance than the implicit-physical group, explicit group outperformed implicit group in the virtual context, explicit-virtual group benefited the feedback more than explicit-physical group, and finally, implicit-virtual group performed better than implicit-physical group.

Keywords: implicit feedback, explicit feedback, physical context, virtual context.
1. Introduction

Feedbacks are usually divided into explicit and implicit types. Explicit corrective feedback is defined as the provision of the correct linguistic form or structure to the student by the teacher focusing on the linguistic error, for example, crossing out an unnecessary word, phrase, morpheme, or providing written metalinguistic explanation (the provision of grammar rules and examples at the end of students’ script with a reference back to place in the text where the error has occurred). On the other hand, implicit corrective feedback is the one which indicates that an error has been made in the text without drawing explicit attention to it. This is provided in one of the following ways: underlining or circling the error, recording in margin the number of errors in a given line, using a code to show where the error has occurred and what type of error it is (Ferris, 2003).

As technology and specifically using internet is developing, it is effective to use Electronic feedback. That is, error correction can be done digitally. MacLeod (1999, p.92) mentioned some advantages of error correction via electronic medium. Virtual contexts help students to be honest, because learners do not see their instructors and peers. So, e-feedback can help learners to respond independently, which MacLeod called “a plus” (p.92).

There are not sufficient studies examining the impact of explicit and implicit corrective feedback in virtual context. Due to technological improvements, instructors consider computer networks as part of their students’ learning experience (Bruce, 1991), but they face difficulty in how they can introduce virtual context to their students and how they can respond to their students’ writing.

The purpose of the present study is to investigate the role of written corrective feedback (explicit vs. implicit) on the grammatical accuracy of academic writing in physical context versus virtual context. In more technical terms, the purpose of the present study is to investigate whether the effect of explicit and implicit corrective feedback in written grammar in virtual context is more statistically significant than those in physical context. The following research questions are raised:
1. Is there a significant difference in the effect of explicit and implicit corrective feedbacks on Iranian students’ immediate learning of written grammar in physical context?
2. Is there a significant difference in the effect of explicit and implicit corrective feedbacks on Iranian students’ immediate learning of written grammar in virtual context?
3. Is there any significant difference between physical context and virtual context regarding the effect of implicit feedback on written grammar?
4. Is there any significant difference between physical context and virtual context regarding the effect of explicit feedback on written grammar?

The following hypotheses are formulated according to the questions:

H01. Explicit and implicit corrective feedbacks have the same effect on Iranian students’ immediate learning of written grammar in physical context.
H02. Explicit and implicit corrective feedbacks have the same effect on Iranian students’ immediate learning of written grammar in virtual context.
H03. There is no significant difference between physical context and virtual context regarding the effect of implicit feedback on written grammar.
H04. There is no significant difference between physical context and virtual context regarding the effect of explicit feedback on written grammar.
The results of this study can assist teachers and students in giving and receiving appropriate feedback in appropriate contexts. Since, the success in language learning is influenced by variables such as the kind of corrective feedback students receive (explicit vs. implicit), and the context of learning (physical vs. virtual).

2. Review of Related Literature

The well-known argument between Truscott and Ferris outlines some of the main issues surrounding written corrective feedback. Truscott (1996, 1999, 2007, 2008, and 2009) as an opponent in error correction was responsible for igniting the argument and the subsequent call for further research studies. In his 1996 article, he made valuable critiques about corrective feedback and the harm it has for writers. According to him, error correction does not persuade L2 writers to write long texts, and it does not bring an air of positivity to the writing process. Furthermore, he asserted that, regardless of the students’ perception that corrective feedback is useful, it should not be given whenever learners expect corrective feedback; “this does not mean that teachers should give it to them” (1996, p. 359). In Truscott’s (1999) later response to Ferris (1999), he elaborates this same sentiment:

How much of students’ false faith in correction is due to the reinforcement it receives from their teachers? To some extent, the argument from students’ beliefs is circular: By using correction, teachers encourage students to believe in it; because students believe in it, teachers must continue using it. (p. 116)

By using research from first language writing Truscott showed that error correction had little effects on developing writing. Furthermore, he used two empirical studies by Semke (1984) and Robb et al. (1986) for supporting his own claims that corrective feedback was ineffective. These researchers did not find any considerable difference between the two error correction groups that they were investigating. However, these studies had some limitations, such as lack of control group.

Ferris (2004) responded to Truscott’s beliefs based on her own research and interpretation. She responded to Truscott’s 1996 article questioning his cynicism towards corrective feedback regarding problems with position of Truscott: first, he exaggerated negative effect because research results contradict his thesis, second, teaching methodologies and research paradigms differ across studies, and third, the subjects in different studies are not comparable.

2.1. Strategies of Written Corrective Feedback

There are various types of strategies used in the written corrective feedback (Ellis, 2008). Explicit corrective feedback occurs when the correct form is given in place of an incorrect form. It is the explicit correction of error. Implicit corrective feedback occurs when an error is indicated but the correct form is not given. Ellis identifies two types of implicit corrective feedback as indicating only and indicating the specific location. Indicating only is one in which an error is noted, such as in the margin, but the exact location is not provided. Indicating the specific location is one in which the error is underlined or given specific reference.

2.1.1. Explicit (Direct) and Implicit (Indirect) Corrective Feedback

A range of studies (Carroll, 2001; Chandler’s, 2003; Falhasiri, et. al., 2011; Ferris, 2003; Ferris & Roberts, 2001; Muranoi, 2000; Robb et al., 1986; Roberts & Ferris, 2001; Sheen, 2007) have investigated whether certain types of written corrective feedback or combinations of
different types are more effective than others. These studies have most often categorized feedback as either explicit or implicit. Explicit corrective feedback may be defined as the provision of the correct linguistic form or structure by the teacher to the student above the linguistic error. It may include the crossing out of an unnecessary word/phrase/morpheme, the insertion of a missing word/phrase/morpheme or the provision of the correct form or structure. Additional forms of explicit feedback may include written metalinguistic explanation, the provision of the grammar rules, and examples at the end of the students’ script with the reference back to place in the text where the error has occurred (Ferris, 2003). Implicit corrective feedback indicates in some ways an error has been made without explicit attention drawn. This may be provided in one of the four ways: underlining or circling the errors; recording in the margin the number of errors in a given line; or using a code to show where the error has occurred and what type of error it is (Ferris & Roberts, 2001; Robb et al., 1986).

Some studies indicate that explicit correction works better than implicit correction where treatment involves production. In Carroll and Swain (1993) and Carroll (2001), explicit metalinguistic feedback group outperformed all other types of correction groups. Formal grammatical explanation was more effective than meaning-focused debriefing in Muranoi (2000) study. Lyster (2004) reported that prompts (which included metalinguistic feedback) were more effective than recasts. Roberts and Ferris (2001) assert that learners do not have metalinguistic and linguistic knowledge required to react and process appropriately to different corrective feedback. Explicit corrective feedback provides learners with explicit guidance about how to correct their errors.

Chandler’s (2003) studied the effects of four corrective feedback types. The participants were L2 English speakers studying in first or second-year in music. Over the course of one semester, the participants were required to write 5 five-page autobiographical essays on which the feedback treatments were performed. The researcher used four treatment groups: explicit correction, where the correct response was either inserted or replaced the incorrect response; underlining with description (also referred to as metalinguistic feedback where the incorrect item was underlined and the relevant error code was written in the margin); description of type only (metalinguistic feedback where an error code was written in the margin next to the line the error was in); and underlining (implicit feedback where the error was underlined but no other description was given). Two of these methods were reported as being equally effective, correction and underlining with description. The author reported less effective results for the other two treatment groups.

Sheen (2007) investigated the effects of explicit corrective feedback on the acquisition of English articles, with the use of three groups: an explicit-only corrective feedback group, an explicit with metalinguistic clues corrective feedback group, and a control group. Both treatment groups used a focused approach by only giving feedback on articles. Two corrective feedback treatments were conducted over the course of the study. The participants were required to read and listen to a short story and then were asked to reproduce the story on their own. Following this, the researcher used one (or none for the control group) of the corrective feedback treatments, depending on the students’ assigned groups. After receiving the corrective feedback, students were asked to look over their writing samples to see where their errors occurred, but they were not required to make revisions. Her findings showed that both approaches resulted in significant improvement in the linguistic accuracy of students’ writing, but the method using a
metalinguistic approach showed greater long-term improvement as evidenced by the delayed posttest results.

Robb et al. (1986), in their study on 134 Japanese college EFL students, investigated the effects of four types of feedback which they labeled as: the correction group (also referred to as explicit corrective feedback where the teacher fixed the error or inserted the correct form), the coded feedback group (a metalinguistic approach where error codes were used and an accompanying chart assisted learners to decipher the codes), the uncoded feedback group (an implicit corrective feedback where errors were highlighted but no clue was given as the reason it was incorrect), and the marginal feedback group (another implicit approach, but more implicit than the previous). These four groups outlined a descent from explicit to implicit in the amount of feedback given to students, ranging from the complete correction of every lexical, syntactic, and stylistic error (the correction group) to only making note of the number of errors per line and writing the number in the margin (the marginal feedback group). The authors found that there were not enough difference to be statistically relevant between the groups and thus concluded that no approach was preferable to the other. However, their study has been criticized by Sheen, (2007) for having a major design problem and not including a control group.

Falhasiri, et. al. (2011) investigated the effectiveness of explicit and implicit corrective feedback on interlingual and intralingual errors. 23 undergraduate students from different majors were asked to write 4 compositions on specified topics. The errors in students’ compositions were investigated. Two types of corrective feedback were provided to the students based on the type of errors made, deductive (explicit) explanation for interlingual errors and inductive (implicit) clarification for intralingual errors. After providing the feedback, students were asked to write four more compositions. The frequencies of errors for the two sets of compositions were compared. It was concluded that the frequency of errors decreased after the treatment. Explicit feedback on interlingual and implicit feedback on intralingual errors were reduced significantly. Moreover, interlingual errors were more affected than intralingual.

2.1.2. Electronic Corrective Feedback

Computer networks have been brought into the classroom as an innovative means for facilitating the use of interactive or communicative competence of second/foreign language students. The general preference has been the transition from drill-and-practice type software first in the direction of computers as tools (e.g., word processing) to the concretion of a natural computer-mediated, communicative language learning environment (Altun, 2015, Sauro, 2009; Yang & Chen, 2007).

Among a host of telematic tools (e.g., e-mail, gopher, WWW, etc.), electronic mail (e-mail) writing is rapidly gaining popularity, because it is at the disposal of foreign language teachers. E-mail communication follows several of the principles expressed in language acquisition theories. Emails include the capability to present a natural language environment with concrete referents, provide expansive feedback, promote communication among peers and allow correction to be independent from communication, treat network communication as experiential learning activities, and provide socialization and communication to take precedence over form (Kelm, 1996, Romm & Pliskin, 1999).

Generally, to take benefits of e-mail technology, second and foreign language teachers around the world have used various e-mail projects. Some projects involve students of different culture and languages. Cross-cultural collaboration supports to facilitate target language
proficiency and cultivate cultural understanding. For instance, Chang (1992) implements e-mail communication for EFL students in Taiwan to dialogue with English-speaking students in the USA. Kern (1996) organized an exchange project between elementary French students at the University of California, Berkeley, and a history class in France. Furthermore, Ham (1995) incorporated cross-cultural e-mail activity into an advanced German conversation and composition course taken by undergraduate university students to allow the learners with an opportunity to actively use their language skills and foster an appreciation for the relativity of cultural perspectives.

Yeh and Lo’s (2009) study of 50 Taiwanese college students’ use of electronic feedback showed that an online feedback annotation system slightly outperformed traditional paper-based feedback. During the course of two writing assignments, the students in the two groups (the experimental group receiving online annotations and the control group receiving paper-based feedback) studied the feedback they received on both writing tasks following the second writing assignment. The online annotation group had slightly better results and it was concluded that online annotation could be effective in treating students’ errors. Furthermore, Nagata (1993, 1997) reported positive results in her study of 14 second year Japanese learners’ acquisition of Japanese particles. The group receiving online metalinguistic feedback by means of online particle exercises outperformed the other group receiving translation feedback on the same online particle errors.

More research studies are needed to investigate the usefulness of providing explicit and implicit feedback in virtual context, in comparison to the physical context.

3. Methods
The participants, the instruments, the data collection and the data analysis procedure of this quasi-experimental study are presented, respectively.

3.1. Participants
The participants consisted of 80 Iranian students in the age range of 18 to 28, studying general English in Science and Technology University in Tehran, Iran. They were in lower-intermediate proficiency level selected from 110 students participating in Quick Placement Test (QPT, Oxford University Press and University of Cambridge Local Examinations Syndicate). Those who scored between 28 and 36 were considered lower-intermediate (according to the test placement chart). Then, using match-paired design, these students were divided into four equal groups, 20 students in each group.

3.2. Instruments
Two types of instruments were used in this research: the QPT and the writing prompts. The QPT was a multiple-choice test with 50 items testing situations (five items), cloze passages (25 items), and grammar and vocabulary (20 items). Regarding the writing prompts, two topics were chosen from the TOEFL IBT (2006), one entitled: How do movies and television influence people’s behavior? Use specific reasons and examples to support, was used for the pretest, and the other entitled: If you could travel back in time to meet a famous person from history, what person would you like to meet? Use specific reasons and examples to support, was used for the posttest.
3.3. **Data Collection Procedure**

First, the QPT was administered to 110 university students, and according to the test results and test level chart, 80 students who were lower-intermediate were selected. Then, they were divided into four equal groups, namely, explicit physical, implicit physical, explicit virtual and implicit virtual (20 students in each group). They were asked to write an 80-word composition on a specified topic as a pretest. Then, their compositions were scored using TOEFL IBT rating scheme (2006). The descriptive statistics for the pretest was presented in Table 1.

The compositions written as pretest served two purposes: assuring that the students were homogeneous concerning the writing ability, and using it as a starting point to implement the treatment (providing feedback). So, the compositions of each group were given feedback according to the group’s specific objective. In other words, the first group was given explicit feedback in physical context, the second group was given implicit feedback in physical context, the third group was given explicit feedback in virtual context and the forth group was given implicit feedback in virtual context. Following Ferris’ model (2003), explicit feedback in both physical and virtual contexts was provided using metalinguistic explanation, complete definition and examples of the target grammatical features (tenses and articles). Presenting implicit feedback also followed Ferris’ model (ibid) of using highlight in erroneous parts in both contexts. Then, the compositions were given back to the participants, and they were given 30 minutes to read the comments. Then, all groups were given the second topic to write 80 word compositions.

3.4. **Data analysis procedures**

The compositions of different groups were scored by two raters to ensure the inter rater reliability. It turned out to be .89 which is significant at the probability level of .05. Both descriptive and inferential statistics were used to compare the performance of the students in four groups. For descriptive statistics, the mean, standard deviation, minimum and maximum scores are provided. Since there were four groups participating in the study, one-way ANOVA and the related post hoc tests are used as inferential statistics.

### 4. Results

In order to make sure that the participants were homogeneous with regard to their writing ability, they were asked to write a piece of writing on the specified topic. Table 1 presents the descriptive statistics for the writing pretest in four groups, and Figure 1 shows the means graphically (the scores are out of 10).

| Table 1: Descriptive Statistics for the Writing Pretest |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                | N   | Mean | SD  | Min | Max |
| Ex_Ph           | 20  | 2.50 | .607| 2    | 4    |
| Im_Ph           | 20  | 2.50 | .689| 2    | 4    |
| Ex_Vi           | 20  | 2.45 | .605| 2    | 4    |

http://www.ijhcs.com/index.php/ijhcs/index  Page 1863
To investigate if the differences among the groups are statistically significant, a one-way ANOVA is conducted. Table 2 shows the results of this ANOVA.

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>.138</td>
<td>3</td>
<td>.046</td>
<td>.117</td>
<td>.950</td>
</tr>
<tr>
<td>Within Groups</td>
<td>29.750</td>
<td>76</td>
<td>.391</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>29.888</td>
<td>79</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to Table 2, the amount of F-observed (.117) is not statistically significant (p= .950). Therefore, it can be inferred that the four groups’ writing performances on the pretest were not different and they could be considered homogeneous.

After giving the feedbacks to each group according to its purpose (treatment), the participants were asked to write a piece of writing on the second specified topic. Their writings were scored and compared with each other. Table 3 presents the descriptive statistics for the posttest, and Figure 2 illustrates the means graphically.
Table 3: Descriptive Statistics for the Writing Posttest

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exp-Ph</td>
<td>20</td>
<td>7.15</td>
<td>.933</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Imp-Ph</td>
<td>20</td>
<td>6.30</td>
<td>.865</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Exp-Vi</td>
<td>20</td>
<td>8.30</td>
<td>.923</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Imp-Vi</td>
<td>20</td>
<td>7.10</td>
<td>.788</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
<td>7.21</td>
<td>1.122</td>
<td>4</td>
<td>10</td>
</tr>
</tbody>
</table>

Exp-Ph= Explicit Physical  
Imp-Ph= Implicit Physical  
Exp-Vi= Explicit Virtual  
Imp-Vi= Implicit Virtual

Figure 2: Graphical representation of the means for posttest

To find out if the differences in the performance of four groups are statistically meaningful, a one-way ANOVA is conducted. Table 4 indicates the results of this ANOVA.

Table 4: One-way ANOVA on Writing Posttest

<table>
<thead>
<tr>
<th></th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>40.638</td>
<td>3</td>
<td>13.546</td>
<td>17.523</td>
<td>.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>58.750</td>
<td>76</td>
<td>.773</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>99.388</td>
<td>79</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4 asserts that the amount of F-observed (17.523) is significant at the probability level of .05. However, this table does not tell where the exact place(s) of difference(s) is/are. To find it out, a Scheffe post hoc test is conducted. Table 5 reports the results of this post hoc test.
The data in Table 5 reveals the following facts about the differences among the four groups:

1. There is a significant difference between explicit-physical group and implicit-physical group (p= .031, mean difference= .85). This result rejects the first null hypothesis which states that, “explicit and implicit corrective feedbacks have the same effect on Iranian students’ immediate learning of written grammar in physical context”, and since the mean difference is positive, it can be said that explicit-physical group had a better performance than the implicit-physical group.

2. There is a significant difference between explicit-virtual group and implicit-virtual group (p= .001, mean difference= 1.20). This result rejects the second null hypothesis which states that, “explicit and implicit corrective feedbacks have the same effect on Iranian students’ immediate learning of written grammar in virtual context”, and since the mean difference is positive, it can be said that, like in physical context, explicit group outperformed implicit group in the virtual context.

3. There is a significant difference between physical group and virtual group regarding explicit feedback (p= .001, mean difference= -1.15). This result rejects the third null hypothesis which states that, “there is no significant difference between physical context and virtual context regarding explicit written grammar feedback”, and since the mean difference is negative, it is evident that explicit-virtual group benefited the feedback more than explicit-physical group.

4. There is a marginally significant difference between physical group and virtual group regarding implicit feedback (p= .048, mean difference= -.80). This result rejects the fourth null hypothesis which states that, “there is no significant difference between physical context and virtual context regarding implicit feedback on written grammar”, and here again, since the mean difference is negative, it is evident that implicit-virtual group performed better than implicit-physical group.

Table 5 : The Scheffe Post hoc Test for the Posttest

<table>
<thead>
<tr>
<th>Groups</th>
<th>Groups</th>
<th>Mean Difference</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exp-Ph</td>
<td>Imp-Ph</td>
<td>.85*</td>
<td>.031</td>
</tr>
<tr>
<td></td>
<td>Exp-VI</td>
<td>-1.15*</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>Imp-VI</td>
<td>.50</td>
<td>.998</td>
</tr>
<tr>
<td>Imp-Ph</td>
<td>Exp-Ph</td>
<td>-.85*</td>
<td>.031</td>
</tr>
<tr>
<td></td>
<td>Exp-VI</td>
<td>-2.00*</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Imp-VI</td>
<td>-.80*</td>
<td>.048</td>
</tr>
<tr>
<td>Exp-VI</td>
<td>Exp-Ph</td>
<td>1.15*</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>Imp-Ph</td>
<td>2.00*</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Imp-VI</td>
<td>1.20*</td>
<td>.001</td>
</tr>
<tr>
<td>Imp-VI</td>
<td>Exp-Ph</td>
<td>-.05</td>
<td>.998</td>
</tr>
<tr>
<td></td>
<td>Imp-Ph</td>
<td>.80*</td>
<td>.048</td>
</tr>
<tr>
<td></td>
<td>Exp-VI</td>
<td>-1.20*</td>
<td>.001</td>
</tr>
</tbody>
</table>
So, it is found that in both physical context and virtual one, providing the correct linguistic form or structure, crossing out the unnecessary word/phrase/morpheme, inserting a missing word/phrase/morpheme, providing the grammar rules and examples at the end of the students’ script are more helpful than underlining or circling the errors, recording in the margin the number of errors in a given line, or using a code to show where the error has occurred. That is, teaching formal aspects of language contributed positively to the learners’ linguistic and grammatical accuracy. This is in line with what was concluded in Campillo (2003), Carroll (2001), Carroll and Swain (1993), Chandler (2003), Falhasiri, et. al. (2011), Lyster (2004), Murano (2000), and Roberts and Ferris (2001). As for the effectiveness of the virtual context, the findings are consistent with those of Altun (2015), Sauro, (2009), Yang and Chen (2007), and Yeh and Lo (2009).

**Conclusion**

This study was an attempt to find out the effect of explicit and implicit corrective feedback on Iranian students’ immediate learning of written grammar in physical context versus virtual context. As the results of the posttest shows explicit and implicit corrective feedbacks have different effects on Iranian students’ immediate learning of written grammar in physical context”, and since the mean difference is positive, it can be said that explicit group had a better performance than implicit group. Furthermore, explicit group outperformed implicit group in virtual context. Furthermore, it is evident that explicit-virtual group benefited the feedback more than explicit-physical group. And finally, it is suggested that implicit-virtual group performed better than implicit-physical group.

The findings of this study could enrich the literature in the area of second language acquisition development especially Iranian students’ level of learning written grammar in both physical and virtual contexts. Furthermore the findings of this study can be useful for EFL methodologists, textbook developers, syllabus designers, curriculum developers, language teachers, and language test makers. The findings of this study prove helpful in highlighting the role of language teaching methodology in determining the learners’ preferences in the course of second language learning.

This study has a number of limitations, influencing the findings and restricting the generalizability of the results. The first limitation of this study is related to the sample size. The participants of this study included 80 intermediate students. Due to this fact, a word of caution should be taken in to account in generalizing the results. Second, this study worked on university students in intermediate proficiency level. It does not consider the other proficiency levels, so the results should be generalized with caution. Third, factors such as impossibility of including a simultaneous assessment of all possible aspects of grammar affect the accuracy of decisions and the concluding remarks.

There are some suggestions for further research. First, one can examine the relationship of the same independent variable (learning of written grammar in physical context versus virtual context) and other language skills such as reading and listening. Second, one can compare the results of the present study carried out in EFL context and similar studies carried out in ESL contexts. Third, different age groups and gender with
diverse educational backgrounds can be studied to investigate if they come up with the same results.
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