The Effect of Timing and Learners’ Age on Implicit and Explicit Grammar Learning

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Abstract
This study explored the effect of timing of feedback (i.e., immediate vs. delayed) and learners’ age (adolescent vs. adult) on the development of English regular past tense structure. Two intermediate classes of adolescent and adult learners were selected as the participants. Participants were asked to carry out two narrative tasks which set the context for the provision of corrective feedback. The selected target structure was the regular past tense –ed feature. The untimed grammaticality judgment test was used to measure explicit knowledge development and elicited imitation test was employed for the measurement of implicit learning. These tests were administered at the beginning of the study as pre-test, immediately after the provision of immediate feedback and again immediately after the provision of delayed corrective feedback. The results demonstrated that whereas both adolescent and adult learners improved their implicit knowledge after the delayed feedback, explicit knowledge was improved in adult learners after both immediate and delayed feedback but in delayed feedback in adolescent learners. The implications of the findings are discussed in light of theories of second language acquisition.

Keywords: Corrective feedback, Timing, Age, Implicit learning, Explicit learning

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1. Introduction

Within the various methods present today for providing corrective feedback to language learners, choosing the most prudent and effective method has for many years been one of the most pivotal concerns for language instructors (Quinn, 2014). For a good number of teachers, it has always been a question as to whether to give or not to give corrective feedback to learners of English language. In the case of positive answer, if any, to such question, the timing and location of such feedback should be provided. Furthermore, how and on what basis one can assess the effectiveness of methods regarding corrective feedback is also an essential issue to shed light on. Providing language learners with corrective feedback is considered to be both effective and unproductive. Considering the fact that learning grammar, compared to other dimensions of learning English language, has proved to be more tiring and challenging (Brookhart, 2008), teachers need to present different methods with the purpose of providing a more enjoyable and entertaining environment for learners. In this condition, providing the best corrective feedback method in the best time becomes a crucial issue.

Although there has been a plethora of research on corrective feedback, the issue of timing (that is immediate vs. delayed) has received comparatively lesser attention (see Li, Ellis, & Zhu, 2016; Varnosfadrani, 2006), particularly when it gains extra significance in relation to learners’ age. The question of whether adolescent and adult learners benefit differently from immediate vs. delayed feedback needs to be settled. Therefore, the present study was an attempt to shed light into EFL learners’ better grammar acquisition in terms of different corrective timing conditions leading to implicit and explicit learning.

2. Literature Review
2.1. Corrective Feedback

The fundamental reason for the provision of corrective feedback, either written or oral is to boost the learners’ abilities, knowledge, and skills in a language skill or some subject area. In this process, there might be numerous corrective feedback approaches in accomplishing this such as immediate/delayed feedback, form-directed/meaning-directed feedback, and so forth. Correction, as a result, can be presumed to function with different aims or purposes. For instance, Black and William (1998) recommend two types of feedback such as directive and facilitative feedback. Whereas the directive feedback aims
at demonstrating the learners the erroneous parts and the areas to be repaired, facilitative feedback solely presents comments in order to help learners in different phases of the writing process such as writing the text, drafting, revisions, and final drafting. It can be noted that directive feedback presents more thorough help compared to the facilitative response (Quinn, 2014).

The goal of corrective feedback fluctuates based on the adopted strategies. Brookhart (2008), for example, characterized the modification of feedback strategies based on four features of timing, degree, mode, and audience. Brookhart went on to add that each of these features is crucial by stating that the main purpose of providing learners with immediate or delayed feedback is to enable them to become aware of the response. She believed in the potential of immediate feedback due to the fact that she considered it essential to have learners with the feedback while they are still attentive to the content, task, or performance. She further suggested that:

It needs to come when learners still think of the learning purpose as a learning goal—that is, something they are still attempting to achieve, not something they already accomplished. It especially needs to come when they still have some motive to work on the learning goal. Feedback regarding a topic they do not have to engage in again all year would seem to learners as pointless. A common guideline for evaluating the timing of feedback is to put yourself in the students' place. When would learners be more likely to hear your feedback? When are they still thinking about the work? And when can they still do something about it. (p. 11)

Besides this clarification, to better illuminate this matter, Brookhart provided a figure which provides the summary of the instances of appropriate and inappropriate timing of feedback.
Purpose:
- For students to get feedback while they are still mindful of the learning target
- For students to get feedback while there is still time for them to act on it

<table>
<thead>
<tr>
<th>Examples of Good Amounts of Feedback</th>
<th>Examples of Bad Amounts of Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Returning a test or assignment the next day</td>
<td>• Returning a test or assignment two weeks after it is completed</td>
</tr>
<tr>
<td>• Giving immediate oral responses to questions of fact</td>
<td>• Ignoring errors or misconceptions (thereby implying acceptance)</td>
</tr>
<tr>
<td>• Giving immediate oral responses to student misconceptions</td>
<td>• Going over a test or assignment when the unit is over and there is no opportunity to show improvement</td>
</tr>
<tr>
<td>• Providing flash cards (which give immediate right/wrong feedback) for studying facts</td>
<td></td>
</tr>
</tbody>
</table>

Figure 1. Feedback timing (adopted from Brookhart, 2008)

Brookhart (2008) delineated each of the components in this figure. Good timing, according to her, is scoring the test results and returning the results in due time. Therefore, students are still mindful about the results and can better use the feedback assigned to their papers. In contrast, bad timing refers to cases where the tests or assignments are returned with a long delay of time. This delayed returning of papers, according to Brookhart, causes feeling of frustration and leads the students to think that they are being ignored by the teacher.

There have been several research endeavors to explore the effect of feedback timing on learners’ linguistic accomplishments. For instance, Hattie and Timperley (2007) distinguished between correction about task according to which the feedback alludes to the correctness of task completion, and feedback about process which highlights the learners’ use of strategies in order to accomplish a task outcome. Hattie and Timperley outline several studies on feedback and concluded that feedback about the task was more effective on the condition of being immediate, particularly when the learning task was not challenging. In contrast, delayed feedback was revealed to be more beneficial for targeting process issues. In sum, the results of this study revealed that feedback on language consists of correction about task in place of process. Its purpose is to cover concrete items (i.e.,
learners’ errors) rather than the ways a task is approached strategically (Li, Zhu, & Ellis, 2016).

Li, Zhu and Ellis (2016) postulated that the existent research indicated a constructive role for immediate feedback with respect to language learning. Regardless of the attention in the timing of feedback in educational context, there have been a handful of research studies in second language acquisition (SLA) research to investigate its effectiveness. The focus of research has been hardly oriented towards immediate feedback, with very restricted number of studies on delayed CF and even fewer that have compared the impacts of immediate and delayed CF. Rolin–Ianzati (2010) intended to investigate this effectiveness by evaluating the ways that two teachers of French as a second language provided delayed feedback following a role-play task. Rolin–Ianzati characterized two different approaches that are consistent with the input-providing and output-prompting types of correction in immediate CF. Put differently, in one group the teacher provided the feedback; however, in the other, the teacher elicited learners’ own corrections. The findings underscored the teachers’ systematic adoption of each corrective feedback type in spite of the fact that the impact of the delayed feedback on learning was not taken into consideration. This study was however conducive in depicting the ways that input-providing delayed feedback could be practiced in the classroom.

Another study by Lemley (2005) looked into the effect of immediate and delayed feedback on the learners’ writing development comparing an e-learning with a traditional writing instruction context. Writing activities for both groups were similar and were scored by means of the Speedback™ program. Findings revealed significant results pinpointing the superiority of those participants who received direct feedback over the other group of learners who received delayed feedback in their final grades.

Rahimi and Dastjerdi (2012) investigated EFL learners’ oral accuracy, fluency, and complexity development when exposed to immediate or delayed corrective feedback. Participants’ anxiety in terms of each corrective feedback strategy was also investigated. Findings displayed that delayed error correction positively affected fluency and accuracy but not complexity. As expected, the results obtained from the anxiety questionnaire indicated the effectiveness of delayed feedback in declining learners’ tension compared to immediate feedback.
A review of the studies in the realm of the timing feedback depict the scarcity of systematic research comparing immediate and delayed feedback types particularly in relation to learners’ age and the type of learning, that is implicit vs. explicit.

2.2. Explicit Knowledge in Contrast to Implicit Knowledge

Implicit/explicit knowledge constitutes a key distinction in the study of second language acquisition. Explicit knowledge in L2 is mostly defined as the knowledge type that individuals can access through controlled processing by means of the utilization of conscious knowledge. Explicit knowledge can be verbalized by the person since it is consciously known. In contrast, implicit knowledge, which is also called the intuitive and procedural knowledge, is accessed subconsciously in a fluent way without any due hesitation. Literature about explicit and implicit knowledge has mainly focused on their impact upon the language learning and use and their relationship. Each approach has had pertinent supporters or opponents. Krashen (1981), as a strong opponent of the use of explicit knowledge in the classroom, argued that the efficiency of the explicit instruction is limited. Accordingly, Krashen believed that learners can use the explicit knowledge only when they do monitoring (i.e., when they edit their generated language after it has been initiated by the acquired system) and they can use explicit knowledge in unplanned language use. Opponents of the use explicit knowledge assert that the development of implicit and explicit knowledge is entirely distinct and there is no interface between them. This idea is closely relevant to what Krashen called the distinction between learning and acquisition. Based on Krashen’s proposals, acquisition of implicit knowledge appears naturally and unconsciously while learning includes conscious efforts on the part of the learner. Since these two approaches to knowledge construction occur in two different ways, there is no way of relationship between them. Krashen (1981) concluded that incidental language learning, or acquisition, achieves better results than intentional learning.

Explicit methods of teaching linguistic items have proven to be successful too (DeKeyser, 2003). “There is a positive role for some kind of attention to form, that is, either through the explicit teaching of grammar and explicit error correction, or at least through more indirect means such as input enhancement” (DeKeyser, 2003, p. 321). It can be followed that according to DeKeyser, the explicit knowledge encouraged and taught by
teachers can change into implicit knowledge. In other words, he is adopting the strong interface approach. DeKeyser believes that:

Abstractness and distance play a major role in the differential effectiveness of implicit and explicit learning, along with rule scope, rule reliability, and salience. The harder it is to learn something through simple association, because it is too abstract, too distant, too rare, too unreliable, or too hard to notice, the more important explicit learning processes become. (p. 334)

Other researchers adhere to an intermediate position (e.g., Doughty & Williams, 1998; Ellis, 1997; Long & Robinson, 1998). They state that explicit and implicit knowledge may appear as segregated, but argue that explicit knowledge may feed into the intake process by helping learners notice the formal features of the input. From this perspective, corrective feedback could be expected to enhance interlanguage development because it facilitates the process of noticing the gap.

The distinction between explicit and implicit language learning is reflected in the present study by investigating the role of feedback timing on adolescent and adult EFL learners’ performance in grammaticality judgment test and elicited imitation test respectively. In the current study, the following research null hypotheses were proposed:

1. There is not any statistically significant difference between immediate vs. delayed corrective feedback with regard to adolescent and adult EFL learners’ explicit grammar knowledge.

2. There is not any statistically significant difference between immediate vs. delayed corrective feedback with regard to adolescent and adult EFL learners’ implicit grammar knowledge.

A review of the previous studies on the written feedback on learners’ writing has found that studies on feedback in the EFL context have attempted to observe teacher written feedback in general terms. Put differently, the majority of the studies have explored both feedback on language accuracy and feedback on content and organization (e.g., Cho & MacArthur, 2010; Frey & Fisher, 2013; Parr & Timperley, 2010; Peterson & Portier, 2014). Nevertheless, a large number of L2 studies on written feedback have selected a single focus.
Admittedly, existent L2 research on written feedback obviously highlights either the impact of written CF on linguistic accuracy (e.g., Diab, 2015; Shintani & Aubrey, 2016) or the effect of general feedback on content and rhetoric development (e.g., Goldstein, 2004). Very limited number of studies have investigated the prominence devoted to written CF revealing an SLA-centered orientation such as the implicit and explicit structure acquisition through writing (for a review, see Hyland & Hyland, 2006). An individual attention on either CF or global feedback in the area of teacher written feedback research is unrealistic with the reality, where learners usually get exposed to CF with the aim of language use. As a result, findings based on a research design consisting of only CF without due attention given to its conditions such as timing or the resulting effect on language acquisition might not reflect the reality of the classroom. In response to a design incorporating both immediate and delayed feedback, this study examines the effect on students’ implicit and explicit grammatical accuracy.

3. Methodology

3.1. Design and Context of the Study

The present study was a quasi-experimental study based on the use of a pretest, treatment and posttest design. Furthermore, two intact classes served as the sample of this study and the participants were not randomly chosen. Lastly, it needs to be noted that data were quantitatively collected and analyzed in this study.

3.2. Participants

The participants were 50 EFL learners in a language institute of Urmia who were selected out of 69 learners according to their level of proficiency. Two classes comprising adolescent \((N = 26)\) and adult \((N = 24)\) learners were invited and agreed to participate in the study. Although of different age groups, participants in each class were considered to constitute a fairly homogeneous group in terms of their learning background and English proficiency as measured by the TOEFL proficiency test. The learners whose level of proficiency was not in the intermediate category were excluded from the study. They were between 17 and 28 years old; therefore, those participants whose age was below the mean \((M = 22.5)\) were considered as adolescent and those learners above the mean were regarded as adults. Each group was composed of both male and female learners, with 12 males and
14 females in the adolescent group and 12 males and 16 females in the adult group. The participants of this study had learned their English more or less entirely in an instructed setting. None had ever been to an English-speaking country, and they had had little opportunity to use English for communicative purposes outside the classroom. As language institute students, they had 3 hours of English per week. The textbook that was used in each class was the *Top Notch 2* compiled by Saslow and Ascher (2006). Both groups received pretest and posttest and they were both exposed to immediate and delayed feedback measured immediately by the explicit and implicit knowledge tests.

### 3.3. Materials

#### 3.3.1. Narrative Task

In order to provide learners with corrective feedback, two narrative tasks were used for each condition: one with immediate feedback and the other with delayed feedback. To begin with, the participants' primary task was inventing a short story based on a picture. The picture was a visually rich painting by Garza (1990), reflecting a group of people celebrating a party, accompanied with relatives enjoying themselves outside in the yard. This stimulus was previously used by Fiestas and Peña (2004), eliciting narratives from bilingual children. Picture retelling task was the one which affords the participants the least contextual support to build their stories around. In the second oral narrative task, learners were asked to narrate a story based on a picture strip entitled *A Surprise* (Heaton, 1975). In this task, learners were each given two minutes to look at the pictures and then were asked to tell a story accordingly. These two tasks are deemed to be appropriate to the level of participants especially because they are associated with pictures easing the cognitive processing. These two narrative tasks were used in both groups and in the first task, learners were provided with immediate feedback whereas in the latter they received delayed feedback on their erroneous use of the regular past tense –ed structure.

### 3.4. Instruments

#### 3.4.1. Untimed Grammaticality Judgment Test (GJT)

The result of the feedback provision was measured through an untimed grammaticality judgment test (GJT) for explicit knowledge and an elicited imitation test (EIT) for implicit knowledge of the target feature. In the GJT, participants were asked to
judge whether an item was grammatical or ungrammatical and provide a correct form of the error if it was ungrammatical. The EIT asked each learner to orally repeat some grammatical and ungrammatical sentences presented in an aural mode.

Both tests were administered three times: firstly as pretest prior to the beginning of the study, secondly, as post-test1, administered immediately after the provision of immediate feedback and finally, as post-test2 (i.e., delayed) after the provision of delayed feedback. In order not to be memorized by the participants, the items in the three versions were developed based on random scrambling of the same items. Both tests consisted of 30 target items: 20 items that included the regular past tense verbs from the practiced treatment tasks and 10 new items which were not used in the treatment and were solely regular verbs. The reliability of GJT was ensured through the Cronbach’s alpha for the pretest ($\alpha = .73$), the post-test1 ($\alpha = .69$), and post-test2 ($\alpha = .71$).

3.4.2. Elicited Imitation Test (EIT)

The EIT comprised 40 statements relating to the participants' individual personal experience where the 30 items were concerned with the target structure (i.e., regular past tense –ed) and 10 were distracters. It should be highlighted that whereas half of the target items ($N= 15$) were grammatical, the rest were ($N= 15$) ungrammatical. For the scoring, each correct use of the target form received a score of 1 and since self-corrections can encompass the use of explicit knowledge, only first uses were scored. The reliability of EIT was ensured through the Cronbach’s alpha for the pretest ($\alpha = .81$), the post-test1 ($\alpha = .86$), and post-test2 ($\alpha = .79$).

3.5. Data Collection Procedure

This study attempted to provide learners with both immediate and delayed feedback and examine its effect on both adolescent and adult EFL learners’ implicit and explicit grammar learning. Two intact classes based on their level of proficiency were selected where one group served as the adolescent participants of the study and the other class was the adult group. Both classes received the treatment of immediate and delayed feedback after providing answers to the pretests. Immediate feedback was operationalized as recasts (Doughty & Varela, 1998) referring to the repetition of the wrong utterance by the teacher who attempted to make the error bold by means of higher stress and intonation in order to
lead learners towards self-correction. This was then followed by a recast which reworded the erroneous utterance without changing the meaning. Delayed feedback was provided in the second session when the narrative task was completed. In the delayed feedback, the same procedure was followed except that the teacher instigated the corrective episode by referring to the wrong utterance made by a learner when carrying out the tasks. The errors subject to the correction were those recorded by the teacher and another researcher was also present in the class during the treatment. After both immediate and delayed corrective feedback, participants in both age groups received the posttest1 and posttest2 in order to evaluate their implicit and explicit knowledge development.

3.6. Data Analysis Procedure

The obtained data were then analyzed through the quantitative statistical analysis software (SPSS, 21) to provide answers to the research questions. In order to provide answers to the research questions of the present study, a series of repeated measures ANOVA for each of the implicit and explicit knowledge types were performed. The alpha for achieving statistical significance was set at .05.

4. Results

For the first research hypothesis which was concerned with the difference between immediate vs. delayed corrective feedback with regard to adolescent and adult EFL learners’ implicit grammar knowledge, a repeated measures ANOVA test was run. First the results of descriptive statistics for feedback timing and implicit learning for adolescent and adult participants are displayed in Table 1.

Table 1.

Descriptive Statistics for Feedback Timing and Implicit Learning across Age

<table>
<thead>
<tr>
<th></th>
<th>Age</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>EI pre-test</td>
<td>adolescent</td>
<td>26</td>
<td>1.4615</td>
<td>.94787</td>
</tr>
<tr>
<td></td>
<td>adult</td>
<td>23</td>
<td>1.4783</td>
<td>.99405</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>49</td>
<td>1.4694</td>
<td>.95964</td>
</tr>
<tr>
<td>EI post-test1</td>
<td>adolescent</td>
<td>26</td>
<td>1.8846</td>
<td>.95192</td>
</tr>
<tr>
<td></td>
<td>adult</td>
<td>23</td>
<td>1.7391</td>
<td>.81002</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>49</td>
<td>1.8163</td>
<td>.88208</td>
</tr>
<tr>
<td>EI post-test2</td>
<td>adolescent</td>
<td>26</td>
<td>8.9615</td>
<td>1.50946</td>
</tr>
<tr>
<td></td>
<td>adult</td>
<td>23</td>
<td>7.9130</td>
<td>2.10871</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>49</td>
<td>8.4694</td>
<td>1.87196</td>
</tr>
</tbody>
</table>
As is observed in Table 1, except for the pretest scores and posttest1 scores, both adolescent ($M = 8.96, SD = 1.50$) and adult ($M = 7.91, SD = 2.10$) participants' performance increased only after the delayed corrective feedback. However, in order to have a detailed analysis of the exact points of differences, an ANOVA was carried out.

### Table 2.

**ANOVA Results for Feedback Timing and Implicit Learning across Age**

<table>
<thead>
<tr>
<th>Source</th>
<th>timing</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>timing</td>
<td>Linear</td>
<td>1184.883</td>
<td>1</td>
<td>1184.883</td>
<td>492.496</td>
<td>.000</td>
<td>.913</td>
</tr>
<tr>
<td>timing * age</td>
<td>Linear</td>
<td>6.924</td>
<td>1</td>
<td>6.924</td>
<td>2.878</td>
<td>.096</td>
<td>.058</td>
</tr>
<tr>
<td>Error(timing)</td>
<td>Linear</td>
<td>113.076</td>
<td>47</td>
<td>2.406</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results of ANOVA in Table 2 indicate statistically significant main effects for the timing of feedback, $F(1, 47) = 492.49, p = 0.000$. There was however a non-significant interaction effect for the timing and age of the participants, $F(1, 47) = 2.87, p = 0.096$. Thus, the first null hypothesis is partly rejected. Figure 2 shows the differences in the adult and adolescent learners’ grammar knowledge across different feedback types.

![Estimated Marginal Means of MEASURE_1](image)

**Figure 2.** Feedback timing and implicit learning across age.
In order to investigate the second null hypothesis which was concerned with the difference between immediate vs. delayed corrective feedback with regard to adolescent and adult EFL learners’ explicit grammar knowledge, a repeated measures ANOVA test was carried out. First, the results of descriptive statistics are displayed in Table 3.

Table 3.

Descriptive Statistics for Feedback Timing and Explicit Learning across Age

<table>
<thead>
<tr>
<th>Age</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>GJ pre-test</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>adolescent</td>
<td>26</td>
<td>2.4231</td>
<td>1.23849</td>
</tr>
<tr>
<td>adult</td>
<td>23</td>
<td>2.3043</td>
<td>1.22232</td>
</tr>
<tr>
<td>Total</td>
<td>49</td>
<td>2.3673</td>
<td>1.21953</td>
</tr>
<tr>
<td>GJ post-test1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>adolescent</td>
<td>26</td>
<td>3.0385</td>
<td>1.56156</td>
</tr>
<tr>
<td>adult</td>
<td>23</td>
<td>7.0000</td>
<td>1.65145</td>
</tr>
<tr>
<td>Total</td>
<td>49</td>
<td>4.8980</td>
<td>2.55151</td>
</tr>
<tr>
<td>GJ post-test2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>adolescent</td>
<td>26</td>
<td>6.4615</td>
<td>1.24035</td>
</tr>
<tr>
<td>adult</td>
<td>23</td>
<td>6.5652</td>
<td>1.12112</td>
</tr>
<tr>
<td>Total</td>
<td>49</td>
<td>6.5102</td>
<td>1.17478</td>
</tr>
</tbody>
</table>

As is observed in Table 3, although in the pretest scores the adolescent and adult groups had similar mean scores, in the post-test1 administered after the reception of immediate feedback, adult learners \((M = 7.00, SD = 1.65)\) could achieve a higher mean score compared to their younger peers \((M = 3.03, SD = 1.56)\). In the post-test2 administered after exposure to delayed feedback, both adolescent \((M = 6.46, SD = 1.24)\) and adult \((M = 6.56, SD = 1.12)\) participants’ performance increased similarly. However, in order to have a detailed analysis of the exact points of differences, an ANOVA was carried out, the results of which are reported in Table 4.

Table 4.

ANOVA Results for Feedback Timing and Explicit Learning across Age

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>timing</td>
<td>Linear</td>
<td>420.302</td>
<td>1</td>
<td>420.302</td>
<td>264.453</td>
<td>.000</td>
</tr>
<tr>
<td>timing * age</td>
<td>Linear</td>
<td>.302</td>
<td>1</td>
<td>.302</td>
<td>.190</td>
<td>.665</td>
</tr>
<tr>
<td>Error(timing)</td>
<td>Linear</td>
<td>74.698</td>
<td>47</td>
<td>1.589</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The results of ANOVA in Table 4 indicate statistically significant main effects for the timing of feedback, $F(1, 47) = 264.45, p = 0.000$. There was however a non-significant interaction effect for the timing and age of the participants, $F(1, 47) = .190, p = 0.665$. Hence, the second hypothesis is partly rejected. Figure 3 shows the differences in the adult and adolescent learners’ explicit grammar knowledge across different feedback types.

**Figure 3.** Feedback timing and explicit learning across age.

### 5. Discussion

The present study intended to shed light to a significant but an overlooked area of inquiry in SLA research concerning the effect of feedback timing on adolescent and adult EFL learners’ implicit and explicit grammar knowledge development. The age variable constitutes a significant issue in foreign language instruction in Iran since EFL instruction begins at very young ages in language institutes (Kiany, Mirhosseini & Navidinia, 2011). The instruction employed in many language centers is still centered on the presentation, practice, and production (PPP) and generally oriented to intentional learning. This seems to be problematic as the young learners lack the cognitive skills needed for this type of learning (Akakura, 2014). Also, they have limited classroom time and no real opportunity to use what they had learned communicatively. Given the fact that young children learn most of their first language incidentally through everyday experiences, an instructional
approach that encourages implicit learning of L2 might be better suited to young learners. The results of analysis supported this perspective by revealing adolescent learners’ taking benefit from the implicit feedback that was provided after the task completion leading to implicit learning while their adult peers took more advantage from the immediate feedback leading to immediate explicit knowledge development. The development of implicit knowledge took place only after a delay and this is also confirmed by recent research (Akakura, 2014; Khezrlou, 2018; Khezrlou, Ellis, & Sadeghi, 2017), whereas the explicit knowledge was developed promptly after immediate feedback in adult learners, but delayed in adolescent learners. This is in line with Long’s Interaction Hypothesis claiming that feedback and modified output promote acquisition when learners attempt to negotiate meaning in communication and also supported by empirical evidence (Khezrlou, 2012; Rahimi & Dastjerdi, 2012). The findings, however, are in opposition to the Lemley’s (2005) findings indicating the superiority of immediate feedback only.

The results also get support from a number of meta-analyses (Li, 2010; Lyster & Saito, 2010; Russell & Spada, 2006) showing that corrective feedback is beneficial for L2 development. However, the meta-analyses have not firmly demonstrated whether implicit feedback (e.g. clarification request, recasts) is more or less effective than explicit feedback (e.g. explicit correction, metalinguistic feedback). Li (2010) found that explicit feedback was more effective compared to implicit feedback when acquisition was measured in immediate and short-delayed posttests, but on long-delayed posttests, implicit feedback was found to be more advantageous. Lyster and Saito (2010) could not reach a significant difference between explicit and implicit feedback (i.e., recasts or prompts) in classroom studies. The results of these meta-analyses showed that the effect of corrective feedback was mediated by various other variables such as the research context, research setting, task type, treatment length, and individual learner differences.

In sum, the obtained results confirm Krashen’s (2003) argument that explicitly capturing the students’ attention to the forms of language interfere with the naturalistic and implicit process of acquisition in the case of young learners. In the case of adult learners, on the other hand, immediate feedback was effective for explicit knowledge development not for implicit knowledge enhancement. The latter is therefore in line with the interaction hypothesis (Long, 1985, 2015) and noticing hypothesis (Schmidt, 1990; 2001). This hypothesis integrates the two very essential cognitive notions of attention and awareness.
According to Schmidt (1995, p. 20), “the noticing hypothesis states that what learners notice in input is what becomes intake for learning”. Schmidt also states that whether a learner deliberately attends to a linguistic form in the input or it is noticed purely unintentionally, if it is noticed it becomes intake, and that noticing is a necessary condition for L2 acquisition.

6. Conclusion

In any educational setting, feedback plays an important role to encourage student’s learning and is considered as an invaluable tool for facilitating the acquisition process. It also assesses the learners and help teachers to understand how useful were their teaching methodology to maintain a strategy to improve the quality of the educational system. Therefore, in both first and second language learning system, corrective feedback is the most important part of teaching/learning program. In the present study, too, both immediate and delayed feedback types were found to be effective and valuable in the development of explicit and implicit knowledge types; however, the effect was age-dependent.

Although learners can depend on more natural processes in language learning especially for the development of implicit knowledge, teaching, and awareness raising processes are also of significance. Thus, it is essential for EFL teachers to lead their learners’ attention to notice language forms in meaning focused activities to facilitate their learning and become aware of their linguistic, lexical, pragmatics, discourse, or other language problems and difficulties.

In addition, it is critical for classroom EFL teachers to be more aware of the differences among their students (such as age in the case of the present study) and ensure that their courses present information that appeal to students in different grade levels. Thus, there is a need for EFL teachers to have a deeper examination about their students' language learning preferences for conversational interactions and the interaction patterns through interviews, classroom observations, or think-aloud. In fact, the teacher is responsible to provoke both immediate feedback and delayed feedback according to the needs of the learners. In the early stages of learning, for example, explicit and immediate feedback that cuts the flow of communication is not encouraged but after learners’ reaching the learnability stage, to invoke Pienemann’s (2012) theory, immediate focus on
form for the development of explicit knowledge can be practiced. This of course depends on many learner internal and external variables motivating further research to investigate the effect of feedback timing regarding the target structure difficulty level, learners’ level of proficiency, context of learning and many other issues.

References


