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Implicit and Explicit Instruction and EFL Learners' Implicit Knowledge Development: Evidence from Word Monitoring Task

Abbasali Rezaei, Sepideh Mehraein*
University of Tehran, Tehran, Iran

Abstract

Research on the effect of implicit and explicit instruction on developing learners' explicit knowledge by the use of measures of explicit knowledge abounds in the literature. However, measuring learners' implicit knowledge employing fine-grained measures has rarely been the concern of researchers in the field. Therefore, the present study is an attempt to scrutinize the effectiveness of implicit and explicit instruction through administering a Word Monitoring Task (WMT), as a more valid psycholinguistic measure of implicit knowledge. The necessary data were collected from 47 pre-intermediate participants in three different groups, i.e., (1) the implicit group received textually enhanced texts of verb complementation, (2) the explicit group was presented with metalinguistic explanations and examples of the target feature, and (3) the control group was deprived of any instruction. The results of the mixed between-within subjects ANOVA revealed that although both implicit and explicit instructions facilitated the development of the implicit knowledge of the target feature, the learners in the explicit group outperformed their counterparts in the implicit and the control groups in both the immediate and delayed post-tests. Moreover, the results indicated more durable effects of implicit instruction compared with those of explicit instruction. Overall, the findings provided evidence for the superiority of explicit instruction and the long-term effect of implicit instruction in developing relevant knowledge of verb complementation. The findings of the study can benefit both teachers and learners in developing teaching/learning strategies to improve and facilitate the grasp of both explicit and implicit knowledge.

Keywords: Implicit instruction; explicit instruction; implicit knowledge; word monitoring task

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Corresponding author: Department of English Language and Literature, University of Tehran Email: sepideh.mehraein@ut.ac.ir

1. Introduction

A large body of research has addressed the role of instruction in second language (L2) learning. However, the effectiveness of instruction in L2 learning remained controversial. The results of a good number of second language acquisition (SLA) research studies have indicated that appropriate kind of instruction can yield more effective acquisition of an L2 (Cerezo, Caras, & Leow, 2016; DeKeyser, 2005; Doughty, 2003; Godfroid, 2016). According to Richards and Rodgers (2014), the extent to which teachers need to draw learners' attention to the linguistic forms has always provoked heated debates. In the same line, many strategies and methods to teach grammar, among which two popular teaching approaches are implicit and explicit, have been highlighted. Explicit instruction is defined as an obtrusive instructional treatment during which learners' attention is directed to the formal aspects of language, while implicit instruction refers to the process of rendering some linguistic forms into more salient so that the learners' attention can be drawn to them more successfully (Ellis, 2001).

Experts in the field have been concerned with drawing the distinctive line between implicit and explicit knowledge. In their attempts, they have defined explicit knowledge as the knowledge we are consciously cognizant of, while implicit knowledge is the knowledge that we possess but

are not usually aware of (DeKeyser, 2009; Hulstijn, 2005). Previous SLA studies have empirically shown that implicit and explicit knowledge are two distinct constructs that can be measured with different tests (Bowles, 2011; Ellis, 2005; Gutiérrez, 2013; Zhang, 2015). A number of studies have employed these tests to explore the effectiveness of implicit and explicit instruction on L2 development. However, controversies prevail with respect to the superiority of implicit or explicit instruction. Therefore, further research is needed to shed more light on the comparative role of these two types of instruction. Some of studies already conducted suggest the superiority of explicit instruction over implicit one (e.g., Akakura, 2012; Baleghizadeh & Derakhshesh, 2017; Chan, 2018; De la Fuente, 2009; Hernández, 2008), nevertheless, most of these studies have failed to include a measure of implicit knowledge which might explain why the groups benefiting from explicit instruction have outperformed those which have received implicit instruction (Norris and Ortega, 2000). These studies, in fact, have employed Elicited Imitation (EI) Task, Oral Narrative Test (ONT) and Timed Grammaticality Judgment Test (Timed GJT) as measures of implicit knowledge, and Untimed Grammaticality Judgement Test (Untimed GJT) and Metalinguistic Knowledge Test (MKT) as measures of explicit knowledge. Furthermore, recent studies have revealed that manipulating time condition or stimulus type does not make EI, ONT, and Timed GJT measures of implicit knowledge. Instead, psycholinguistic measures, such as Word Monitoring Task (WMT) and Self-Paced Reading Task (SPRT), are

more fine-grained measures of implicit knowledge. Therefore, the role of implicit and explicit instruction on developing learners' implicit knowledge needs to be re-examined by employing more concentrated measures of implicit and explicit knowledge.

To fill this gap, this study is designed to search whether implicit instruction is more effective compared to explicit instruction in promoting learners' knowledge of verb complementation by employing a psycholinguistic measure called WMT, having been shown as a more valid measure of implicit knowledge (see Jiang, 2004, 2007; Suzuki, 2015; Suzuki & DeKeyser, 2015; Vafaee, Suzuki, & Kachisnke, 2017).

2. Literature Review

2.1. Explicit and Implicit Instruction

There is a consensus among researchers that input is essential for language acquisition to take place, but they may not have similar ideas about the way it is used by learners (Selinker & Gass, 2008). Krashen (1981) and Long (1996) assert that meaningful input is one of the most important factors in language development in general and in L2 enhancement in particular. Focus-on-form (FonF) approach is a kind of instruction that clearly employs the concept of meaningful input and draws students' attention to linguistic elements as they arise implicitly in tasks whose main attention is on meaning or communication (Long, 1991). As a type of FonF and implicit

instruction, textual enhancement usually achieved by underlying, **boldfacing**, *italicizing*, or CAPITALIZING, is believed to attract learners, and as a result they will acquire those aspects of more noticeable and salient input (Rassaei, 2012). Therefore, this type of instruction is identified by the absence of rule presentation or explanation (Hulstijn, 2005; Norris & Ortega 2000) as implicit instruction suggests learners' exposure to exemplars in a meaning-focused context in the hope of inferring patterns. Explicit instruction, on the other hand, is based on the explanation of grammatical rules. In fact, language learners experience metalinguistic intervention provided by language practitioners. DeKeyser (1995) states that explicit instruction occurs when "some sort of rule is being thought about during the learning process" (p. 380). Norris and Ortega (2000) also hold that during explicit instruction, the major focus is on forms and rules. This means that learners are aware of what is being taught and are, in fact, encouraged to develop metalinguistic knowledge.

There have been a large number of studies on the effects of implicit and explicit instruction (e.g., Chan, 2018; Godfroid, 2016; Hernández, 2011; Loewen, Erlam, & Ellis, 2009; Moradi & Farvardin, 2016; Morgan-Short, Steinhauer, Sanz, & Ullman, 2012; Radwan, 2005; Rosa & Leow, 2004; Szudarski & Carter, 2016; Varnosfadrani & Basturkmen, 2009; Zhou, 2010, to name just a few). Radwan (2005) scrutinized the effects of explicit instruction on the acquisition of English dative alternation. Participants were

divided into four groups: (1) textual enhancement condition, (2) rule-oriented condition, (3) content-oriented condition, and (4) control group. The researcher employed a GJT, a preference task, and a controlled writing task as instruments. The results of the study indicated that rule-oriented condition group outperformed others in immediate and delayed post-tests. The study provided evidence to support the fact that implicit instruction is not as beneficial as explicit instruction. Reinders and Ellis (2009) also investigated the effect of implicit and explicit instruction on both the intake and acquisition of negative adverbs. The development of learners' implicit and explicit knowledge was measured by Timed and Untimed GJTs, respectively. Their results indicated that implicit condition of input enhancement had no effect on the learners' development of knowledge of negative adverbs. In another study, Hernández (2011) examined the role of both types of instruction (i.e., implicit and explicit) on the acquisition of Spanish discourse markers. The participants were 91 Spanish learners of English which were divided into three groups: (1) explicit instruction and input flood, (2) input flood, and (3) the control group. A picture-description was used to evaluate learners' use of discourse markers in classroom communicative exchanges. The results revealed that the experimental groups outperformed the control group in the use of discourse markers. However, there was no statistically significant difference between the two experimental groups. Therefore, the study did not support the superiority of implicit instruction over explicit one. In a more recent study, Chan (2018)

examined the effects of explicit instruction versus implicit instruction on the acquisition of English simple past tense at a primary school in Hong Kong. The students were taught using three different forms of intervention: (1) processing instruction, (2) traditional or explicit instruction, and (3) implicit instruction. Pre- and post-tests included a sentence-level interpretation task, two discourse-level interpretation tasks, a fill-in-the-blanks task, and a sentence construction task. Results revealed that explicit instruction was found to be more effective than implicit instruction in the acquisition of simple past. On the other hand, Moradi and Farvardin (2016) conducted a comparative study to support the effectiveness of implicit instruction. To do that, they examined input- based, meaning-based output, and explicit instructions on Iranian EFL learners' grammar learning. The participants were 120 high school students who were divided into four groups, namely, textual enhancement, input flood, meaning-based output, and explicit instruction. The results showed that input enhancement and input flood groups outperformed meaning-based output and traditional instruction groups. Szudarski and Carter (2016) also compared the effects of two techniques of implicit instruction (i.e., Input Flood only and Input Flood plus textual enhancement) on the L2 collocation learning. To this end, 41 students of English participated in the study and they were assigned to two experimental groups and one control group. The Input Flood plus textual enhancement group read the stories in group, while the Input Flood group read the same stories, in which target collocations were not highlighted. The

control group did not benefit from any intervention. The results revealed that the Input Flood combined with textual enhancement group outperformed the Input Flood group. Therefore, the study highlighted the beneficial role of textual enhancement as implicit instruction.

2.2. Word Monitoring Task

An emerging line of empirical research has attempted to measure implicit knowledge by utilizing online comprehension measures using eye movement or Reaction Time (RT). These measures prevent L2 learners from consciously accessing explicit knowledge (Suzuki & DeKeyser, 2015). One of the best online processing measures is WMT which examines whether L2 learners are sensitive to grammatical errors while they are reading for comprehension (Granena, 2013; Jiang et al., 2010). More recent studies have employed WMT to examine real-time sentence processing, and scrutinize the validity of the existing implicit knowledge measures (Suzuki & DeKeyser, 2015; Vafaee et al. 2017). The results of Vafaee et al. (2017) revealed that RTs to the target word in ungrammatical items were statistically greater than RTs in the grammatical items. Suzuki and DeKeyser (2017) carefully designed a set of language tests for implicit knowledge and automatized explicit knowledge. They developed three online comprehension tasks as implicit knowledge tests: a self-paced reading task, a word-monitoring task, and an eye-tracking while listening task. Then, they compared participants' performance in these tasks with their performance in

time-pressured, form-focused tasks i.e., timed visual/auditory GJTs and a timed fill-in-the-blanks test, used to measure automatized explicit knowledge. The results from confirmatory factor analysis revealed that the three real-time comprehension measures loaded onto a single implicit knowledge factor, which was distinct from an automatized explicit knowledge factor that was associated with the three time-pressured tasks. Therefore, WMT is a purer measure than the employed measures in the reviewed studies that purport to measure implicit knowledge, but favor the retrieval of explicit knowledge and the effectiveness of explicit instruction (e.g., GJTs, preference tasks, controlled writing tasks, sentence-level interpretation/creation tasks, fill-in-the-blanks tasks, and picture description).

3. The Study

A majority of the reviewed studies indicated the superiority of explicit instruction to implicit. However, most of them failed to include appropriate measures of implicit knowledge and this can explain why the groups which received explicit instruction performed better than those which received implicit instruction. Also, few studies provided evidence to support the facilitative effect of implicit instruction. Motivation behind this study emanates from the paucity of research in employing more valid measures of implicit knowledge to investigate the effects of implicit and explicit instruction. Therefore, the present study attempts to add insights to the

literature by investigating the effect of implicit and explicit instruction on the acquisition of verb complementation measured through a psycholinguistic measure of implicit knowledge. This study is also an attempt to examine the long-term effect of these two types of instruction. To accomplish these goals, this study addresses the following research question:

Does type of instruction (implicit vs. explicit) have any significant effect on lower-intermediate EFL learners' implicit knowledge of verb complement?

4. Method

4.1. Participants

The participants were 47 EFL learners (16 to 25 years old) at Language Center of Shahid Beheshti University. They were both males (*n* = 19) and females (*n* = 28). Their proficiency level was lower-intermediate based on their score on the Oxford Quick Placement Test. The participants came from three intact classes and were randomly assigned to three groups: one group was given implicit instruction (*n* = 15), another group received explicit instruction (*n* = 17), and the control group was not provided with instructional treatment (*n* = 15). The participants consisted of high school students (*n* = 11) and undergraduates (*n* = 36). Table 1 summarizes the characteristics of the participants.

Table 1

Characteristics of the participants

Characteristic	Level	Proportion	
		Number	Percentage
Gender	Male	19	40
	Female	28	60
Age range	16-20	16	34
	21-23	23	48
	+24	8	16
Degree	High School Student	11	23
	Undergraduate	36	77
Group	Implicit	15	32
	Explicit	17	36
	Control	15	32

4.2. Instruments

4.2.1. Instructional Material

The instructional materials included ten texts accompanied by some true/false items. The texts with textual enhancements on the verbs and their respective complements were developed by two Ph.D. candidates of Teaching English as a Foreign Language (TEFL). Textual enhancement was achieved by underlining and increasing the font size of the verbs and using bold typeface and larger font size for the verb complements. They were told to use simple vocabulary and structures, and to use each verb once in the text. The written texts were further revised by the second researcher (Appendix). Verb complementation was selected because its complexity suited the proficiency level of the participants. The chosen verbs were those which permit either infinitive-type or gerund-type complement. The verbs were randomly divided into two groups and each set was used in a different text. In each session, the participants encountered seven verbs and their complements in one of the texts and the other seven ones in the second text.

4.2.2. Measures

Word Monitoring Task. The WMT was used to measure the participants' online sensitivity to grammatical errors. Following Vafaee et al. (2017), participants were presented with a monitoring word in the center of the screen for 2 seconds and immediately after that they had to read a sentence presented to them on the screen chunk by chunk. They were required to press a key as soon as they identified the monitoring word in the sentence. This word appeared after the relevant target structure (critical region) in a sentence. The first chunk of a sentence appeared on the left-hand side of the screen and after 2 seconds, the next chunk appeared automatically to the right of the preceding chunk cumulatively. Each sentence consisted of four chunks. Table 2 provides samples of sentences with critical regions and monitoring words for two target structures.

Table 2

Sample sentences with critical regions (Underlined) and monitoring words (Bolded)

Target Structure	Sample Sentence	True/False Questions
Verb Complement	Students/ <u>demanded knowing/</u> **the** topics/ of their exam.	Students have exams.
	He /<u>attempted to pass</u>/ **his** exam,/ but he failed.	He passed the exam.

After each sentence, a true/false comprehension question appeared on the screen with an equal ratio between the two. In this way, participants' attention was directed to the sentence meaning as well as the monitoring word rather than form. These comprehension questions remained on the screen for 5 seconds. Participants were asked to press two fixed keys on keyboard (i.e., left shift for false sentences and right shift for true ones). This dual-task paradigm is deemed to minimize the application of explicit knowledge. Twenty-four items composed of an equal number of grammatical and ungrammatical structures were included in this task. Of these 24, 8 were included as fillers. Prior to the task, the participants were given 4 practice items (two grammatical, two ungrammatical) to familiarize them with the nature of the test. This task was programmed and delivered through DMDX (Forster & Forster, 2003).

Untimed Grammaticality Judgment Test. This test was merely used to ensure the homogeneity of the participants with regard to their knowledge of verb complementation. It was a computer-delivered test consisting of 24 sentences. Sixteen items were presented as experimental sentences testing the target structure, with an equal number of grammatical and ungrammatical structures. Eight filler sentences were also included, out of which four were grammatical and four ungrammatical. Participants could spend as much time as they needed and they were asked to write their judgments on an answer sheet. In this way, participants' attention was only

directed to form; thus, they can go through all the semantic processing, noticing, and reflecting steps (Ellis 2005). The correct judgment received a score of one, and incorrect judgment yielded a score of zero.

4.3. Data Collection Procedure

One week prior to the intervention, Oxford Quick Placement test was administered to 47 EFL students to ensure the homogeneity of the participants in terms of language proficiency. Three days after that, the participants were given the pre-tests to ensure the extent of the participants' knowledge of verb complementation. The pre-tests were WMT and Untimed GJT. The order of test presentation was the WMT followed by the untimed GJT in order to prevent the instrument effect. Following the pre-test session, instruction was provided during the regular class time by the second researcher, over 5 sessions each lasting about 20 minutes. All the instructions were input-based and neither of the groups had production practice. Three days after the fifth treatment session, the WMT was given to the participants as their post-test. Four weeks later, the delayed post-test was administered to assess the long-term effects of the instructions.

4.4. Treatment Procedure

This study was carried out on two experimental groups (i.e., implicit and explicit instruction) and a control group. The participants in the implicit group received two texts with textual enhancements made on the target

feature. The participants spent about 10 minutes reading the texts silently, and then the second researcher worked with students on their comprehension of the texts without giving any explicit instruction.

The participants in the explicit group were provided with metalinguistic explanation about the target structure, followed by some examples of the target structures. Then, two reading passages containing verb complements were practiced and the participants were required to answer comprehension questions. Next, the second researcher worked with the participants on the structures, while directing their attention to the verbs and their respective complements. Finally, the learners received a hand-out describing the pattern governing the use of the learning the target structure.

The control group also received the same passages in the same order with no modifications or explanations with respect to the verb complement. This was achieved by asking the students to read the texts individually for 10 minutes and to answer true/false items concerning the content of the reading passages. It should be mentioned that the second researcher only helped the learners with difficult words and ambiguities for the sake of better understanding.

5. Results and Discussion

The present study investigated the effect of implicit and explicit instruction on developing implicit knowledge of verb complements. The data were

collected by utilizing WMT, a psycholinguistic measure of implicit knowledge, and an Untimed GJT. To check the homogeneity of the participants with respect to their knowledge of the verb complement, a one-way ANOVA was run to compare the means of the three groups' scores on the Untimed GJT as pretest before starting the treatment. Results of a one-way ANOVA indicated that no significant differences were found among the groups on the UGJT at the $p > 0.5$ level, [$F (2, 44) = 2.1$, $p = 0.13$]. Therefore, the participants were comparable with respect to their knowledge of verb complementation, as illustrated in Table 3.

Table 3

One- way ANOVA on the groups' performance on the UGJT as pre-test

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10.841	2	5.421	2.100	.135
Within Groups	113.584	44	2.581		
Total	124.426	46			

To answer the research question, the scores on WMT were analyzed with a mixed between-within subjects ANOVA with *test time* (pre-, post-, and delayed post-tests) as within-participants factor and *instructional group*

(implicit, explicit, and control) as between-participants factor. Homogeneity of variance was checked through Levene's Test (Table 4) Regarding this Test, the assumption is violated if the significance value is smaller than .05. The examination of Levene's Test table showed that the assumption was met.

Table 4

Levene's test of equality of error variances

	F	df1	df2	Sig.
Pre-test	.361	2	44	.699
Post-test	2.544	2	44	.090
Delayed Post-test	1.091	2	44	.345

Sphericity was checked through Mauchly's Test. In case of this Test, the assumption is violated if the significance value is lower than .05. As can be seen in Table 5, the assumption of Mauchly's Test was not violated.

Table 5

Mauchly's Test of Sphericity

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b]		
					Greenhouse-Geisser	Huynh-Feldt	Lower-bound
Time	1.000	.006	2	.997	1.000	1.000	.500

The descriptive statistics on the RTs in WMT revealed a rise in accuracy for implicit and explicit groups from pre- to post-test. However, explicit group showed a fall in the delayed post-test but the performance of the implicit group in the delayed post-test was almost similar to their performance in the immediate post-test (Table 6).

Table 6

Descriptive statistics for WMT's RTs

	Group	Mean	Std. Deviation	N
Pre-test	Implicit	600.9880	110.24158	15
	Explicit	531.9635	115.34746	17
	Control	539.0291	134.43350	15
Post-test	Implicit	873.4162	125.75478	15
	Explicit	1125.0225	142.13337	17
	Control	609.4613	72.87803	15
Delayed Post-test	Implicit	868.6061	159.60516	15
	Explicit	1066.2482	150.67976	17
	Control	590.8609	99.53809	15

The results of mixed between-within subjects ANOVA revealed the main effects due to time ($F (2, 43) = 119.0$, $p < .05$) was significant. As a result, we can assert that the three test times significantly differed in instructional groups and instruction created positive effects on the improvement of learners' knowledge of verb complementation from pre- to post- and delayed post-test. Additionally, Table 7 showed that the interaction between instructional group and test time was significant ($F (4, 2) = 12.9$, $p < .05$).

Table 7

Multivariate tests

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Time	Pillai's Trace	.153	119.076	2.000	43.000	.000	.847
	Wilks' Lambda	5.538	119.076	2.000	43.000	.000	.847
	Hotelling's Trace	5.538	119.076	2.000	43.000	.000	.847
	Roy's Largest Root	.740	119.076	2.000	43.000	.000	.847
Time * Group	Pillai's Trace	.266	12.922	4.000	88.000	.000	.370
	Wilks' Lambda	2.729	20.151	4.000	86.000	.000	.484
	Hotelling's Trace	2.720	28.650	4.000	84.000	.000	.577
	Roy's Largest Root	.153	59.831	2.000	44.000	.000	.731

The main effect comparing the two types of intervention was also significant (F (2, 44) = 12.9, p = .00), providing evidence for the effectiveness of explicit instruction (Table 8).

Table 8

Tests of between-subjects effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	80344311.847	1	80344311.847	3236.417	.000	.987
Group	2593637.544	2	1296818.772	52.238	.000	.704
Error	1092303.587	44	24825.082			

Post-hoc comparisons using the Tukey's HSD test indicated that the implicit instruction group's performance differed significantly from both the explicit group and the control group and the explicit instruction's RTs differed significantly from both the implicit group and the control group since the obtained p-value is smaller than .05, as illustrated in Table 9.

Table 9

Post Hoc tests using Tukey's HSD test

Group	Group	Mean Difference	Sig.
Implicit Group	Explicit Group	-126.7413	.001
	Control Group	201.2197	.000
Explicit Group	Implicit Group	126.7413	.001
	Control Group	327.9610	.000
Control Group	Implicit Group	-201.2197	.000
	Explicit Group	-327.9610	.000

As the following figure shows, the test scores of the control group did not differ significantly from pre-test to post- and delayed posttests. On the other hand, the mean RTs for the explicit group reveal a significant difference between pre- to post- and delayed post-tests; however, there is a fall from post- to delayed post-test. Finally, in the implicit group, the examinees' RTs in pre-test differ significantly from post-test, but remain almost similar in delayed post-test.

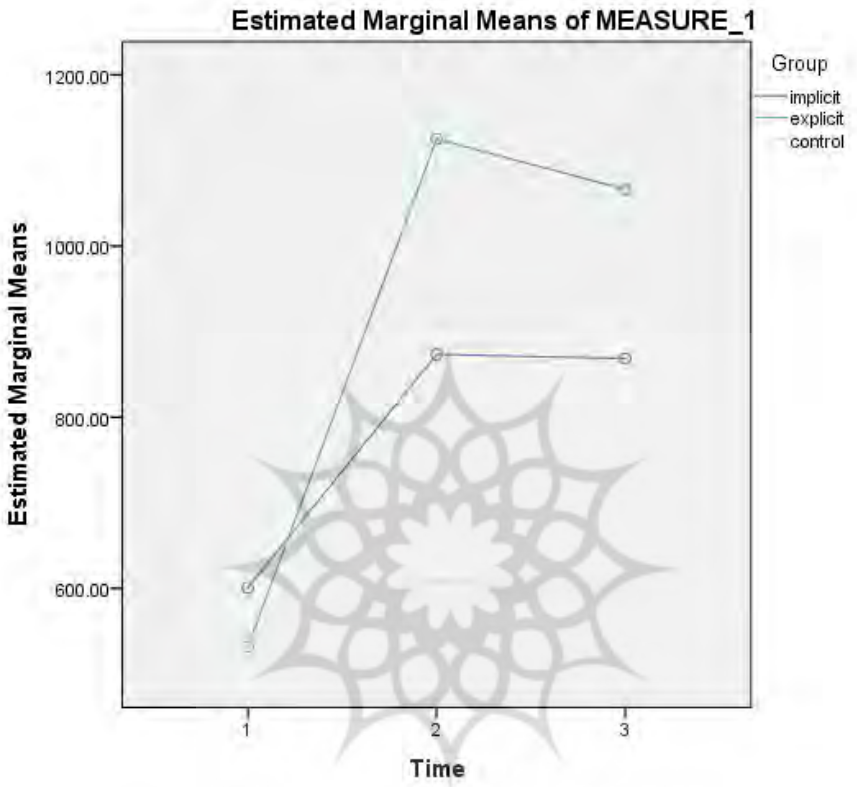

Figure 1.

The mean reaction time of implicit, explicit, and control group in pre- to post- and delayed post-tests

In summary, the results analyzed here indicated that all the three groups performed significantly differently from one another. That is to say, explicit instruction group's performance differed significantly from the implicit group's performance. Similarly, implicit group's performance differed

significantly from the control group. Therefore, the explicit instruction group significantly outperformed the implicit group and the control group. In addition, the implicit group significantly outperformed the control group.

The superiority of explicit instruction over implicit instruction found in this study is in line with previous studies (Akakura, 2012; Andringa, Glopper, & Hacquebord, 2011; Cahn, 2018; De la Fuente, 2009; Hernández, 2011; Norris and Ortega, 2000; Radwan, 2005; Rosa & Leow, 2004). Our results are generally similar to those of Baleghizadeh and Derakhshesh (2017), in which they found compared to students who were assigned to textual enhancement condition, those who were presented with rule explanation displayed a greater performance in both post-tests. The finding also provides support for Smith's (1981) findings in that learners of an L2 need to consciously notice forms and meanings represented in the input. The results also revealed that implicit instruction brought about improvements in the participants' implicit knowledge of the target structures compared to the control group. Therefore, the result of this study is in conflict with previous studies that found textual enhancement, as an implicit approach, has no effect on intake (Izumi, 2003; Leow, Egi, Nuevo, & Tsai, 003; Radwan, 2005; Reinders & Ellis, 2009; Wong, 2003). It may be due to the fact that they employed appropriate measures of explicit knowledge, but not fine-grained measures of implicit knowledge. The present study is in line with Hernández (2011) who found that input enhancement treatment led to

significant improvements in the use of target structures by learners, compared to a control group that did not receive input enhancement. Although the findings of this study do not totally support Moradi and Farvardin (2016) findings who found that implicit instruction is more effective than explicit instruction, the results showed more durable effects of implicit instruction. This finding may be explained by reference to the nature of implicit knowledge which is slow and laborious to form due to the extra time required for internal processing to convert input to implicit knowledge (Nassaji & Fotos, 2004; VanPatten, 1996).

6. Conclusion

The results of this study indicate the superiority of explicit instruction and the long-term effect of the implicit instruction on the measure of implicit knowledge. Therefore, providing metalinguistic explanations of the target languages and making some linguistic forms salient to draw learners' attention to them can be effective. Additionally, these findings indicate that learners exposed to instructional intervention, whether implicit or explicit, were more successful than those who did not receive any kind of intervention. Thus, it can be concluded that both implicit and explicit instruction have positive and facilitative effect on improving implicit knowledge of verb complementation. The present study may be useful especially for teachers and researchers who are still in doubt which type of instruction, implicit or explicit, is more beneficial in language teaching. The

results of the study may pave the way for them to judiciously choose the type of instruction and take full advantage of the time of their classes to teach their students. Moreover, since spontaneous language use (i.e., implicit knowledge) is the final goal of language learning, this study may provide evidence for teachers to consider enough time to implement teaching methods that can provide EFL learners with more opportunities of using implicit knowledge.

The present study is not exempt from limitations. The first limitation is that the degree to which implicit or explicit knowledge is involved may vary depending on a number of factors including task modality, time pressure, task requirements, length and type of prior L2 study, and so on (Ellis, 2005). Another restricting factor is that only one measure of implicit knowledge is employed in this study. Thus, the administration of other psycholinguistic measures of implicit knowledge such as SPRT is required. Delimitation of this study should also be addressed. This study included only one target structure. Thus, future research can be done including different target structures.

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Notes on Contributors:

Abbas Ali Rezaei is an Associate Professor at the University of Tehran. He has been teaching EFL-related courses at BA, MA and PhD levels. He has presented papers and workshops in both national and international conferences. He has also been involved in supervising a large number of MA theses and PhD dissertations.

Sepideh Mehraein is currently a PhD candidate in Teaching English as a Foreign Language at the University of Tehran. She has been teaching English at different institutes and universities. Her main research interests include SLA, psycholinguistics, and teacher education. She has presented papers and workshops in national conferences.

Appendix

A REPRESENTATIVE SAMPLE OF INSTRUCTIONAL MATERIALS

Implicit Group

The Boy and his Messy Room

Johnny was a messy ten-year-old boy. And when his father suggested **cleaning** his room, he avoided **doing** it. His father always told him "son, try to clean your room, because if you lose something in your room, it would be impossible to find it." But Johnny always pretended not **to notice** his father's advice.

One day when Johnny came home from school, he was very angry. His father asked for the reason. Johnny attempted to **remain** silent and said he disliked **talking** about it and went straight to his room.

He stayed in his room that day and never came out. Finally, his father went into his room. He knocked on the door. Johnny said "come in". When the father entered the room, he found Johnny's room completely trashed. "What's going on Johnny?" asked his father. "I'm searching for something" said Johnny, in a very low tone. "What are you looking for?" said the father. "Well today at school my teacher asked for my assignments, but I didn't have them". "Why? I saw you do your assignment yesterday", said the father. "I've lost my text book. I searched for it in the morning before I went to school, but I couldn't find it. Now my teacher said if I don't bring my textbook tomorrow, he intends **to punish** me."

After Johnny admitted **losing** his book, he thought that his father is going to use this opportunity to give him another lecture about being clean. But instead his father said "It's ok, I'll go out to buy another textbook for you before it's too late but you have to promise me to clean the room before I come back." Johnny said "I promise."

When his father came back, he found out that Johnny is sitting on a chair in front of the TV with his textbook in his hand. "I found it dad, I don't need to clean my room anymore." "You really have to learn things the hard way." his father said in an angry voice. And then his father demanded him **to clean** his room immediately.

Read each of the following statements. Then mark TRUE or FALSE.

	True	False
1- Johnny is 8 years old.	☐	☐
2- Johnny's teacher punished him.	☐	☐
3- Johnny's father bought him a new book.	☐	☐
4- Johnny had forgotten to do his homework.	☐	☐

	True	False
5- Johnny cleaned his room in the end.	☐	☐

Explicit/Control Group

Visiting my Mom

Yesterday, I came home from work very late and I was really tired. I decided to eat something and just watch TV. When I was watching TV I suddenly remembered promising my mom to visit her. She had been sick for a few days, so I really needed to go and see her. I could go there by taxi but my roommate, who always encourages me to learn how to drive, happened to be at home so I asked her to take me there. She was also tired and said that she preferred to stay at home and read her books. But after asking a few times finally I convinced her to come with me. She knows my mom because we've been friends for years. She really likes my mom so when she heard that she had been sick for a few days she agreed to give me a ride. I called my mom and told her that we were going there. I could feel how happy she was. We got dressed and left the house. On the way we realized we hadn't bought anything for her so we considered buying her some flowers, but it was hard to find flowers because we didn't know any florist shop. We spent some time looking for some roses because my mom really likes roses. When

we finished searching and finally got the flowers it was almost 7. We went to my mom's house. She became very happy when she saw the flowers. We talked about different thing and ate dinner together. We stayed there till midnight and when we finally said goodbye it was almost 1. I'm glad we went there last night. We had a great time and it also made my mom very happy.

Read each of the following statements. Then mark TRUE or FALSE.

	True	False
1- The girl's mother is in hospital.	☐	☐
2- The girls decided to take a taxi.	☐	☐
3- They bought some roses for her mother.	☐	☐
4- They had dinner before paying the visit.	☐	☐
5- They stayed there till midnight.	☐	☐