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The effects of input enhancement and explicit instruction on developing Iranian lower-intermediate EFL learners' explicit knowledge of passive voice

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Abstract

The importance of teaching explicit knowledge of grammar has been one of the most controversial issues in L2 instruction. Despite the existence of considerable number of studies on different methods of grammar instruction, very few studies have investigated the role of explicit instruction and input enhancement on developing EFL learners' explicit knowledge of grammatical structures. Therefore, this study is an attempt to investigate the effects of input enhancement and explicit instruction on developing Iranian EFL learners' explicit knowledge of simple present and simple past passive voice. To this end, 48 lower- intermediate EFL students participated in the present research and a pretest-posttest quasi experimental design with two experimental groups and a control group was adopted. While the participants in the explicit instruction group received explicit instruction on selected passive forms, those in the enhanced input received the same passages but the target passive forms were enhanced via bolding and underlining, and the control group received the same texts but in the original form with no enhancement or explicit instruction. To measure participants' explicit knowledge of the target passive voice, two valid measures including untimed grammaticality judgement test (UGJT) and metalinguistic knowledge test (MKT) were used. One-way ANOVA results indicated the superiority of the explicit instruction in developing explicit knowledge of passive voice. The findings have some pedagogical implications for EFL teachers and material developers.

Keywords: Explicit instruction, Explicit knowledge, Input enhancement, Passive voice

Introduction

For years, a large body of research has been done to address the role of instruction in second/ foreign language (L2/FL) learning; however, the effectiveness of instruction in L2/FL learning has been controversial (Ellis, 2005). Some researchers claim that mere exposure to comprehensible input or triggering input cannot lead to the desired instruction. That is to say, teachers' role is to provide the correct information about different aspects of the L2 structures, Doughty (2008) claims that appropriate and relevant treatments are effective only when they are necessary. That is, the L2 teacher does not need to provide extra or unnecessary information when certain grammatical

aspects are taught, since it may confuse L2 learners. The results of a large body of research conducted within second language acquisition (SLA) have revealed that the right kind of instruction is effective in promoting the acquisition of an L2 (Doughty, 2008).

According to Richards and Rodgers (2014), teaching English, as a foreign language has always been a controversial issue. In this regard, the extent to which teachers and language practitioners need to draw learners' attention to the linguistic forms has always arisen considerable controversy. At one end, explicit instruction is defined as the most explicit and obtrusive instructional treatment during which learners' and teachers' focus lies intensively on the formal aspects of language (Ellis, 2001). According to DeKeyser (1995, 2005), learners develop metalinguistic awareness of the rule when they receive explicit instruction. At the other end, input enhancement refers to the process of making some linguistic forms more salient and noticeable in order to draw learners' attention to them. Sharwood Smith (1991) defines input enhancement as "the process by which language input becomes salient to learners" (p.118). The reason that language practitioners recommend instructional techniques that improve SLA is that learners do not always pay attention to what they need in the input (Wong, 2005).

Furthermore, during the last two decades, the issue of explicit and implicit knowledge has attracted a lot of attention. On the one hand, explicit knowledge is defined as the declarative and conscious knowledge that is accessed during controlled processing and is potentially verbalizable. Implicit knowledge, on the other hand, is procedural and tacit knowledge that is available automatically in fluent, spontaneous language use and that is not verbalizable (Bowles, 2011; Ellis, 2005).

One of the most widely accepted idea among L2 scholars is that teaching passive voice is a big challenge in L2 grammar instruction. While constructing English passive voice seems simple, advanced non-native learners experience difficulty with passive construction and use even after many years of L2 learning (Hinkel, 2004). Based on teaching experiences of the authors of this article, a considerable number of Iranian EFL learners, at different proficiency levels (i.e. lower intermediate, upper intermediate, advanced) cannot use the English passive voice correctly in their academic writings; simply by not using the appropriate past participle of verb or by omitting *be*, although they have been taught this structure in previous semesters. The problem could be related to the syntactic and semantic complexities embedded in passive sentences. This study, therefore, focused on two kinds of passive voice, namely simple present and simple past passives.

A considerable number of studies have been done separately on the effectiveness of explicit instruction and input enhancement on L2 development; however, differences in opinion exist with respect to the superiority of explicit instruction or input enhancement and more research is needed to shed more light on the role of these two types of instruction.

Literature review

With the rise of Communicative Language Teaching (CLT) in the late 1970s, the role of grammar instruction in L2 learning was played down (Nassaji & Fotos, 2004). There has also been a hot discussion about the unhelpful and detrimental role of grammar teaching as it could result in rote- memorized pattern of learning among students (Myles, 2004; Nassaji & Fotos, 2004); however, recent research has proved that formal

instruction of grammar could be helpful for learners to achieve high levels of accuracy (Nassaji & Fotos, 2004). Accordingly, SLA theorists and language practitioners believe there is a crucial need to integrate meaning- focused with form- focused instruction through new approaches (Loewen, 2007), this caused the rebirth of grammar teaching. Therefore, the question is not whether teachers should teach grammar or not, but approaches to teaching grammar is one of the most controversial issues in SLA.

Three paradigms in second/foreign language instruction

Focus-on-forms instruction (FonFS)

FonFS refers to the traditional teaching of grammar-based on pre-selected and sequenced linguistic syllabi (Long, 1991). According to Ellis, Basturkmen, and Loewen (2002), FonFS instruction refers to prior selection of linguistic forms which involves intensive and systematic treatment of those linguistic features. The main belief is that linguistic features should be taught systematically, one at a time (Long, 1991). According to Shintani (2013), in FonFS instruction, the learners' main attention is focused on linguistic form.

Focus-on-form instruction (FonF)

FonF was first introduced by Long (1991), he used the term to describe an approach to instruction that attempts to "overtly draw students' attention to linguistic elements as they arise incidentally in lessons whose overriding focus is on meaning or communication" (pp.45–46). Furthermore, Ellis (2012, p. 272) argues that FonF is an approach which involves "an effort to cause incidental acquisition via instruction by drawing learners' attention to linguistic features while they are engaged in communication". According to Ellis (2016) FonF is an essential construct in task-based language teaching.

The main feature of FonF instruction is that it pre-dominantly focuses on the meaning and authentic communication, however, it also offers brief explicit instruction of problematic L2 grammatical forms (Doughty, 2008). Two different types of FonF instruction were proposed by Ellis (2001): planned FonF and incidental FonF. The former involves the use of focused tasks. It also includes the repetitive attention to a specific linguistic structure during communicative activities to provide opportunity for incidental learning.

The latter, on the other hand, happens in cases where a communication problem occurs between the learners participating in an interaction who have trouble understanding the intended meaning or while learners do want to focus on a form in a natural communication (Ellis, 2001). Incidental FonF has been further divided into two types: pre-emptive and reactive FonF. While the former includes focus on some specific linguistic items (grammatical or lexical), the latter occurs when learners' attention is drawn to their committed errors, which is perceived by the teacher. Thereby, incidental FonF provide opportunity to teach some specific linguistic features; it also measures those features that are not the focus of teaching but occurred in the input.

Focus-on-meaning instruction (FonM)

Long (1991) defines FonM instruction as an approach to language teaching that emphasizes implicit language learning where learners' focus of attention is on meaning.

According to Celce-Murcia, Dörnyei, and Thurrell (1997), in a meaning focused approach, “learners are usually not specifically taught the strategies, maxims and organizational principles that govern communicative language use but are expected to work these out for themselves through extensive task engagement” (p. 141). Krashen (1981) claims that focus on meaning is the key factor for successful second language acquisition. In FonM approach, learners learn a second language best when they experience it as a means of communication and that incidental and implicit learning is sufficient for language acquisition. Therefore, explicit attention to linguistic items and awareness are not required for successful language acquisition. This approach, hence, stresses on providing opportunities for learners to experience rich input (Norris & Ortega, 2000).

The role of explicit and implicit instruction

Explicit and implicit teaching methods are not new in the domain of SLA, they are highly important within form-focused instruction which has received a lot of attention and many definitions have been proposed by researchers.

For Norris and Ortega (2000), explicit instruction is based on the explanation of grammatical rules, that is, language learners experience deductive/meta-linguistic intervention provided for them by language practitioners. They also claimed that during explicit instruction, the major focus is on forms and rules. In implicit instruction, on the other hand, there is no rule explanation nor has any direction to attend to forms (Ellis, 2005; Norris & Ortega, 2000). They also concluded that explicit instruction can lead to durable development in learners. Hence, implicit instruction is based on the idea that by providing exemplars of a rule, learners can infer the rule without focusing their attention on form (Ellis, 2009; Ellis et al., 2002). Input enhancement is an implicit way to draw language learners’ attention to specific lexical or grammatical forms (White, 1998). Sharwood Smith (1991) introduced the term, “input enhancement”, he defines input enhancement as the process by which specific linguistic features become more salient to learners. In general, there are two methods of input enhancement known as typographical (written input) enhancement and intonational (oral input) enhancement. In textual input enhancement, learners’ attention is drawn to linguistic forms by altering physical appearance of the target forms which is sometimes accompanied by an explicit mention to the participants to attend to the highlighted forms (Izumi, 1999). These forms might be bolded, capitalized, italicized, underlined or highlighted with different colors (Sharwood Smith, 1993). In the case of oral input, learners are provided with manipulation of listening materials that teacher alters his/her intonation, stress or uses a short pause before or after the target items. Wong (2005) claims that these techniques provide learners not only with exposure to comprehensible input but also simultaneously draw their attention to particular target items.

Research on explicit/implicit instruction

There are a large number of studies on the effects of explicit and implicit instructions on implicit and explicit knowledge of L2/FL learners. The following review mainly includes the most related studies where learners were exposed to either explicit or implicit instruction in L2/FL contexts. Alanen (1995) investigated the role of input

enhancement and explicit rule presentation on 36 ESL English-speaking adult learners' processing of semi-artificial Finnish locative suffixes and consonant gradation. The results revealed that two of the four groups received explicit rule instruction gained advantage over both the control and the enhanced input groups.

In another study, White (1998) examined the effectiveness of input enhancement in learning English third-person singular possessive determiners (i.e. his and her). A total of 86 learners were assigned to three groups: the input enhancement group receiving textual enhancement, the second group receiving input enhancement and extensive reading and listening tasks and the control group receiving the original input with no enhancement. The selected grammatical forms were enhanced through combination of different techniques (underlining, italic, bolding and text enlargement) for two experimental groups. The results showed that both experimental groups improved from pretest to posttest, but the difference was not significant.

To examine the effects of implicit instruction, Takahashi (2001) investigated the effect of input enhancement on the development of English request strategies. The participants were Japanese EFL learners at a Japanese university. This study compared four input conditions: explicit teaching, form-comparison, form-search and meaning focused instruction. Takahashi found that the explicit group outperformed all other groups in the use of target structures. The results also showed that explicit teaching had the strongest impact, followed by form-comparison, form-search, and meaning focused.

Macaro and Masterman (2006) investigated the effect of explicit grammar instruction on grammatical knowledge of the French university students. To see whether a short intensive explicit instruction was effective on improving students' grammatical knowledge in production tasks, the participants were tested three times over five months. Results indicated that explicit instruction was effective in gains of some grammatical aspects but it did not lead to gain in accuracy in free composition and translation.

To assess the effect of instruction over a longer period, Tode (2007) studied the durability of explicit and implicit grammar instruction on beginning EFL learners' learning of the copula *be*. The explicit group was given explicit instruction on the rule of the copula *be*. The participants in implicit instruction memorized exemplars without concentrating on the rule. The control group did not receive any instruction on the target structure. Then, the participants completed Post-test 1, and after a three-week interval, Posttest 2. To compare the durability of the treatments on the copula *be*, the participants of each group received some instruction on the present progressive. After completion of the course, Post-test 3 was given to see if the instruction on the auxiliary *be* had any effect on the mastery of the copula *be*. The findings indicated that explicit instruction was more effective in the short term as compared with implicit instruction; however, its effect was not durable.

A meta-analysis was conducted by Spada and Tomita (2010) to investigate the effects of instruction type (explicit and implicit) on the acquisition of grammatical features (simple and complex) in English. They reported larger effect size for explicit over implicit instruction for both simple and complex grammatical features.

Hernández (2011) examined the role of explicit instruction and input flood on the acquisition of Spanish discourse markers. The participants were 91 fourth semester learners of Spanish, which were divided into three groups: (1) explicit instruction and input flood, (2) input flood and (3) the control group. The first experimental group

received both explicit instruction and input flood with respect to the target structure. The second experimental group received the input flood without any explicit rule explanation. The results of his study (both immediate and delayed post-test) revealed that the experimental groups outperformed the control group in the use of discourse markers to narrate a past event. However, there was no statistically significant difference between the two experimental groups.

In a study in computer-mediated environment, Akakura (2012) examined the effect of explicit instruction on 94 learners' explicit and implicit knowledge of generic and non-generic English articles. To measure the explicit and implicit knowledge, four tests were used: Elicited Oral Imitation and Oral Production Tests to measure the learners' implicit knowledge and Grammaticality Judgment Test and Metalinguistic Knowledge Test to measure explicit knowledge. The results showed that explicit instruction not only improved the learners' explicit knowledge but also it developed their implicit knowledge of generic and non-generic English articles.

To compare the effects of explicit and implicit instruction in L2 pragmatics, Nguyen, Pham, and Pham (2012) evaluated the relative effects of these two types of instruction on the acquisition of selected speech acts by 69 Vietnamese English learners. The explicit group received meta-pragmatic explanation and correction of errors on forms and meanings. The implicit group participated in pragmalinguistic input enhancement and recast activities. The two treatment groups and the control group were compared on a discourse completion task, a role play and an oral peer feedback task. A delayed post-test was also administered to measure the long term retention. The findings showed that both of the treatment groups significantly outperforming the control group in the immediate and delayed posttest. The findings also indicated that the explicit group performed significantly better than the implicit group on all measures.

In another study, Erturk (2013) set out to investigate the acquisition of past hypothetical conditional on Turkish learners of English through different attention drawing techniques (i.e., input enhancement, input processing and pushed output). She conducted this study with four groups: (1) visually enhanced input group, (2) input processing group, (3) pushed output group and (4) control group. The results revealed that pushed output and processing instruction techniques had facilitative effects on the acquisition of type 3 conditional sentences; however, visually enhanced input failed to show such a positive effect.

Learning is important, but deep and durable learning is more important. In this regard, Fordyce (2013) studied the long-term and short-term effects of two instructional treatments, explicit instruction and implicit instruction on the acquisition of epistemic stance forms in writing by 81 Japanese learners of English. Tests consisted of two writing tasks: descriptive and opinion giving tasks, both immediately and four months later. The results revealed that explicit intervention outperformed implicit instruction both in short and long terms. However, in the case of newly emerged forms, there was no statistically significant difference between the two experimental groups.

Moradi and Farvardin (2016) conducted a comparative study on the effectiveness of input-based, meaning-based output, and traditional or explicit instructions on Iranian EFL learners' grammar learning. The participants were 120 junior high school students who were divided into four groups, namely, textual enhancement,

input flood, meaning-based output, and traditional or explicit instruction. The data were collected by using a multiple choice grammar test and a written production test. The results indicated that input enhancement and input flood groups outperformed those in meaning-based output and traditional instruction groups.

In a recent study, Umeda, Snape, Yusa, and Wiltshier (2017) examined the long-term effects of explicit instruction on learners' knowledge on English articles. Three groups including the treatment group, a control group and a native English speaker control group participated in the study. The two instruction groups were taught the target structures across nine weeks. The results from delayed post-tests showed that the explicit group improved, but after one-year little knowledge was remembered. Similar to Tode's (2007) finding, they also gave more weight to explicit teaching, but its durability was under question.

In a more recent study, Chan (2018) examined the effects of explicit instruction versus implicit instruction on the acquisition of English simple past at a primary school in Hong Kong at the second phase of her study, the students were being taught using three different forms of intervention: (1) processing instruction, (2) traditional or explicit instruction, and (3) implicit instruction. Results indicated that the processing instruction group had significant improvement in the interpretation task. Results also revealed that explicit instruction was found to be more effective than implicit instruction in second language acquisition of English simple past.

About the acquisition of adjective ordering in English, a recent study was conducted by Hirakawa, Shibuya, and Endo (2018) to compare the effectiveness of explicit instruction, input flood and study abroad in EFL context of Japan. The explicit instruction group received 90-min instruction across three weeks while the input flood group received positive evidence with multiple adjectives over 15 weeks. The natural exposure groups participated in three or five-week intensive study-abroad programs in North America. Results indicated that only the explicit instruction group improved in their acquisition of adjective ordering and input flood and study abroad groups did not reveal any knowledge gain of adjective order restrictions in their posttests.

To sum up, a majority of the reviewed studies indicated the superiority of explicit instruction to implicit, they concluded that more explicit types of instruction may be more effective for second/foreign language learning (Chan, 2018; Fordyce, 2013; Hirakawa et al., 2018; Norris & Ortega, 2000; Spada & Tomita, 2010; Takahashi, 2001). On the other hand, approaches like CLT and FonF generally suggest that second/foreign language instruction should be implicit to some extent. Another consideration is about the durability of instruction, the literature revealed that explicit instruction resulted in positive effects only in the short term, while implicit instruction did not (Fordyce, 2013; Tode, 2007; Umeda et al., 2017). Also, few studies provided evidence to support the facilitative effect of input enhancement. For example, in Moradi and Farvardin's (2016) study, input enhancement and input flood groups outperformed those in the traditional or explicit instruction group, while other researchers such as Erturk (2013) found no significant effects of input enhancement. The point is that very few studies investigated the effects of explicit instruction versus input enhancement as a method of implicit instruction on developing learners' explicit knowledge. Based on what were discussed above, this study aimed to fill the gap by answering the following questions:

1. Does instruction (explicit vs. input enhancement) have any significant effects on Iranian lower- intermediate EFL learners' explicit knowledge of passive voice as measured by UGJT?
2. Does instruction (explicit vs. input enhancement) have any significant effects on Iranian lower -intermediate EFL learners' explicit knowledge of passive voice as measured by MKT?

Methodology

Participants

At the beginning of the study, 57 students agreed to take part in this research. Out of 57, forty eight students (21 males, 27 females) whose scores ranged between 24 and 30 were selected on the basis of their performance in a simulated Oxford Quick Placement Test. According to the result of this test, the students were classified at lower- intermediate level. Due to availability of the participants to the first researcher, convenience sampling method, a type of non-probability sampling, was adopted for sample selection. Then, these participants were randomly assigned into three groups: (1) explicit instruction ($n = 16$), input enhancement ($n = 16$) and control ($n = 16$). All participants were Iranian with Persian as their first language. Their age range was between 13 to 19 years.

Instruments and instructional Materials

Oxford quick placement test

In order to choose homogeneous participants in terms of language proficiency, the researcher administered Oxford Quick Placement Test (2001) among 57 participants. Since most students scored less than 35 out of 40 from Part 1 of test, they were given only Part 1. The participants' proficiency levels were measured based on four levels: beginner (score 0–15), elementary (16–23), lower- intermediate (24–30), upper- intermediate (31–40). As the majority of the participants' scores fell between 24 and 30 (lower-intermediate level), 48 of them were selected as the main participants of the study.

Untimed grammaticality judgment test

In the present research, Untimed grammaticality judgment test (UGJT) was designed based on the principles described in Ellis (2005). He considers three steps in making grammaticality judgment that learners may go: semantic processing, noticing, and reflecting. With UGJT, learners have as much time as they wish, so they can go through all the three steps and monitor their performance and make use of declarative knowledge while attending target forms. The central task of UGJT is to discriminate between well-formed and deviant sentences. (Ellis, 1991). UGJT was developed to tap into the participants' explicit knowledge of passive voice in focus because it involves a high degree of awareness, and the test takers' focus of attention was on form (Ellis, 2005; Ellis & Loewen, 2007). The test consisted of 10 grammatical (i.e., five sentences for simple present passive voice and five sentences for simple past passive voice) and 10 ungrammatical sentences (i.e., five sentences for simple present passive voice and five sentences for simple past passive voice) which were distributed randomly. The test also contained five distracters. Overall the test included 25 items. The participants were

required to read the sentences and judge in a written form whether the sentences were grammatical or not. The participants were also allowed as much time as they wished to respond. Their answers were classified into three categories: 'correct judgment', 'incorrect judgment' and 'no idea'. The examples below describe the categories:

1. *The letter was mailed yesterday.* √ (correct judgement).
2. *The letter was mailed yesterday.* X (incorrect judgement)
3. *The project completed in 2004.* X (correct judgement).
4. *The project completed in 2004.* √ (incorrect judgement).
5. *Last night, the homework was done by my sister.*— (no idea).

'Correct judgment' was given if the participant would judge a grammatical sentence as grammatical or an ungrammatical as ungrammatical. 'Incorrect judgment' was given if the participant would judge a grammatical sentence as ungrammatical or if the participant judged an ungrammatical sentence as grammatical. The correct judgment received a score of one, and incorrect judgment yielded a score of zero. If the participants had no idea, again a score of zero was given. It is necessary to mention that to minimize the test wiseness effect, the order of items was changed from pre-test to post-test, but the content of two tests was the same. The Cronbach's alpha reliability of the test was 0.86 and the face and content validity of the test was established by two experienced English teachers.

Metalinguistic knowledge test

The second measure, metalinguistic knowledge test (MKT), is an adaptation of the previous test developed by Alderson, Clapham and Steel (1997). This test was designed to tap into learners' explicit knowledge, the learners responded the test with no time pressure, the focus of the test was on form not meaning and it needed the use of metalinguistic knowledge.

This test consisted of 15 ungrammatical sentences, of which 12 sentences were about the grammar in focus (i.e., simple present and simple past passives) and the last three ungrammatical sentences served as distracters which included other grammar errors. The part of the sentence containing the error was underlined and bolded.

The participants were asked to write in their L1 the rule that had been violated, so limited L2 proficiency could not be a barrier in expressing their L2 metalinguistic knowledge. They were also informed that they were not required to correct the error. A second rater, an experienced English teacher, was asked to rate the test and no deviance was found between the two ratings, so the inter-rater agreement was 100% ($r = 1$). The face and content validity of the test was established by two experienced EFL teachers.

The following example clarifies the scoring procedure of this test:

1. The flowers *watered* by the gardener every evening

The accepted answer is as follows:

This sentence is passive because the doer of the action is not at the beginning of the sentence. Therefore, the sentence should be in passive voice. In doing so, we need to use *to be* verbs *were + p.p* to make a passive voice for the simple past tense.

When the participants could use the correct terminologies required to justify the ungrammaticality of the given sentences, they would get a score of one for each sentence. So, the maximum score for this test was 12. It is also worthy to note that the MKT post-test included the same statements as those of the pre-test but they were presented in a different order.

Reading texts

Eight reading passages were the main instructional materials used in the present research. The passages were selected from different internet sources and textbooks (e.g., *Interchange 2*, third edition by Richards, Hull, and Proctor (2005); *Select Readings*, pre-intermediate, second edition, by Lee and Gundersen (2002); the sources were either at pre-intermediate or intermediate proficiency level. All the passages included several examples of the target structures. Since the passages were taken from different sources, the researcher checked their difficulty level using the Flesch–Kincaid readability formulae. The Flesch-Kincaid reading ease score of the passages ranged from 60 to 70, this range indicates that the selected passages were easily understood by the participants of the study who were at lower intermediate level.

Data collection procedure

One week prior to the treatment, the Oxford Quick Placement test (2001) was administered to 57 EFL students to ensure the homogeneity of the participants in terms of language proficiency. Forty eight participants whose scores were between 24 and 30 were selected as the main participants of the study. These participants were considered as lower- intermediate according to Oxford Quick Placement test's leveling criteria.

Then, the participants were randomly assigned to three groups. To measure participants' knowledge of the grammatical structures in focus before the treatment, two measures including MKT and UGJT were administered as the pretests to the three groups. At the next phase, participants of each group received instruction for four weeks, one session per week. One week after the treatment, the posttests were administered to check the participants knowledge gain of the selected structures. It is worth mentioning that in order to check the inter rater reliability of the MKT test which can somehow be considered as a subjective test, two experienced teachers were asked to rate the test and no deviance was found between the two ratings ($r = 1$).

Treatment procedure

This study was carried out on two experimental groups (explicit instruction and input enhancement) and a control group. The common core of the treatment for all three groups was eight passages containing target structures. All three groups were asked to read the same passages, two passages per session, and then answer the same questions following reading texts.

The first experimental group ($n = 16$), known as explicit instruction group, received deductive explicit instruction on the target structures. In each treatment session, participants were first provided with a metalinguistic explanations about the target structure, simple past or simple present passive forms. Following grammatical rule explanations, some examples of the target structures were presented. Participants were

also provided with technical terms (i.e. doer, object, etc.) to label building blocks of the given examples. Then, two reading passages containing simple past and simple present were practiced during each one-hour session. As a pre-reading activity, participants were engaged with some questions. Then, they were asked to read the reading texts on their own for 10 to 15 min. Finally, they were required to answer the comprehension questions. Participants of this group were also involved in rule verbalization and error correction tasks during the course.

The second experimental group ($n = 16$), known as input enhancement group, received the same passages with the selected passive forms enhanced via combinations of two techniques (i.e., bolding and underlining) which were accompanied by an explicit mention to the participants to attend to the highlighted forms. The participants of this group did not receive any metalinguistic explanation about the target passive forms. Learners of this group experienced a meaning-centered context. In order to draw learners' attention to their errors, teacher repeated deviant forms for signaling the erroneous structures with an exaggerated intonation and provided them with an overt correction without giving any explicit instruction. Teaching of the reading passages was the same as described for the explicit instruction condition.

The control group, ($n = 16$) also received the same passages in the same order. The control group received neither explicit instruction nor enhanced input treatment with respect to the passive voice. They were merely involved in pre-reading, while-reading and post-reading activities. The participants of all three conditions were allowed to ask any questions about the reading passages. It is worth noting that the first researcher herself was the instructor of all three groups.

Results and discussion

The present study investigated the effect of two types of treatments, namely explicit instruction and input enhancement on developing explicit knowledge of two types of passive voice, namely simple present and simple past. The data were collected by utilizing two tests, namely the UGJT and MKT. The main goal of this study was to find plausible answers to the following questions:

1. Does instruction (explicit vs. input enhancement) have any significant effect on Iranian lower-intermediate EFL learners' explicit knowledge of passive voice as measured by UGJT?
2. Does instruction (explicit vs. input enhancement) have any significant effect on Iranian lower- intermediate EFL learners' explicit knowledge of passive voice as measured by MKT?

As mentioned before, the participants were randomly assigned to three groups, 16 students in each group. However, for the final data analyses, four students had to be excluded from the study since they were not either present in all treatment sessions or at the post-test sessions. Therefore, the data of only 44 participants, including explicit instruction group ($n = 15$), input enhancement group ($n = 15$) and control group ($n = 14$) were considered for the final analyses.

Results related to the first research question

To answer the first research question regarding whether instruction (explicit vs. input enhancement) has any significant effect on Iranian lower- intermediate EFL learners' explicit knowledge of passive voice as measured by UGJT, a one-way ANOVA was run to compare the means of the three groups' scores on the UGJT as pretest to check homogeneity of students with respect to their knowledge of the target structures 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, [$F(2, 41) = 1.14, p = 0.32$]. Therefore, the participants were comparable with respect to their knowledge of passive voice, as illustrated in Table 1.

In order to see which group outperformed the other groups after receiving the treatment, a one-way ANOVA was run to compare the means of the three groups' scores on the UGJT post-test. Since the obtained p -value is smaller than .05, the result revealed that there was a statistically significant difference at the $p < .05$ level in UGJT scores for the three groups: $F(2, 41) = 335.59, p < .001$ (see Table 2). The actual difference in mean scores between the groups was quite large. The effect size, calculated using eta squared was .94.

However, still it was not clear where the differences exist and more analysis was needed to find out which group or groups did better in the UGJT post-test. To this end, Tukey's HSD post-hoc test was run, and the results are presented in Table 3. The results indicated that the mean scores for the three groups were significantly different from one another.

As shown in Table 3, the explicit instruction group's performance differed significantly from the control group and input enhancement group's performance ($p < .001$). Similarly, the input enhancement group's performance differed significantly from the control group ($p < .001$). Therefore, the explicit instruction group outperformed the input enhancement group and the control group.

The results related to the second research question

To answer the second research question concerning about whether instruction (explicit vs. input enhancement) has any significant effect on Iranian lower- intermediate EFL learners' explicit knowledge of passive voice as measured by MKT, a one-way ANOVA was run to compare the means of the three groups on pretest. Results of a one-way ANOVA indicated that there was no significant difference among the groups on the MKT, at the $p > 0.5$ level, [$F(2, 41) = 0.64, p = 0.53$]. Therefore, the participants were comparable with respect to their knowledge of passive voice, as illustrated in Table 4.

In order to see which group outperformed the other groups after receiving the treatment, a one-way ANOVA was run to compare the means of the three groups' scores on the MKT as the post-test. Since the obtained p -value is smaller than .05, the result

Table 1 One-way ANOVA on the groups' performance on the UGJT as pre-test

	Sum of squares	df	Mean square	F	Sig.
Between groups	3.428	2	1.714	1.143	.329
Within groups	61.481	41	1.500		
Total	64.909	43			

Table 2 One- way ANOVA on the groups' performance on the UGJT as post-test

	Sum of squares	df	Mean square	F	Sig.
Between groups	992.531	2	496.265	335.599	.000
Within groups	60.629	41	1.479		
Total	1053.159	43			

revealed that there was a statistically significant difference at the $p < .05$ level in MKT scores for the three groups: [$F(2, 41) = 300.425, p < .001$]. In order to measure the relative magnitude of the differences between the means, the effect size was calculated. The effect size, calculated using eta squared, was .93, which is quite large (Table 5).

Post-hoc comparisons using the Tukey's HSD test indicated that the explicit instruction group's performance differed significantly from both the input enhancement group and the control group ($p < .001$), since the obtained p -value is smaller than .05. However, there was no significant difference between the input enhancement group and the control group ($p = .84$), as illustrated in Table 6.

In summary, with respect to the first research question, the results analyzed here indicated that all three groups performed significantly differently from one another. That is to say, explicit instruction group's performance differed significantly from the input enhancement group's performance ($p < .001$). Similarly, input enhancement group's performance differed significantly from the control group ($p < .001$). Therefore, the explicit instruction group significantly outperformed the input enhancement group and the control group. In addition, the input enhancement group significantly outperformed the control group. In the case of the second research question, the explicit instruction group's performance differed significantly from both the input enhancement group and the control group ($p < .001$). However, there was no significant difference between the input enhancement group and the control group.

Discussion of the findings

The first question asked if instruction (explicit vs. input enhancement) has any significant effect on Iranian lower- intermediate EFL learners' explicit knowledge of passive voice as measured by UGJT. Results of one-way ANOVA on UGJT showed that although input enhancement treatment and explicit instruction promoted participants' performance on passive grammatical structures and raised their awareness during the

Table 3 Post Hoc tests using Tukey's HSD test for the UGJT

(I) Group	(J) Group	Mean difference (I-J)	Sig.
Explicit instruction	Input Enhancement	1.800*	.001
	Control	10.0971*	.000
Input enhancement	Explicit Instruction	-1.800*	.001
	Control	9.171*	.000
Control	Explicit Instruction	-10.0971*	.000
	Input Enhancement	-9.171*	.000

Asterisks indicate statistically significant differences between the groups ($p < 0.05$)

Table 4 One- way ANOVA on the groups' performance on the MKT as pre-test

	Sum of squares	df	Mean square	F	Sig.
Between groups	1.639	2	.819	.643	.531
Within groups	52.248	41	1.274		
Total	53.886	43			

course, only the explicit instruction group outperformed significantly to both the input enhancement and control groups.

In this regard, the findings are consistent with previous studies that have demonstrated the superiority of explicit instruction (Fordyce, 2013; Takahashi, 2001). Similarly, the result is consistent with the results of two meta- analysis studies conducted by Norris and Ortega (2000) and Spada and Tomita (2010) indicating that explicit types of instruction were more effective than implicit ones. The findings of the current study do not support Moradi and Farvardin (2016) findings who found that implicit instruction is more effective than explicit instruction.

In a similar vein, the results revealed that input enhancement brought about improvements in the participants' explicit knowledge of the target structures compared to the control group. The result of this study demonstrated that enhanced input had positive and facilitative effect on improving explicit knowledge of target passive voice. The result of this study is in conflict with White (1998) and Erturk (2013) studies who found that input enhancement did not lead to the expected noticing of the target aspect in their studies.

However, some studies found positive effects for input enhancement. For example, Hernández (2011) 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. The findings contribute to Ellis's (1997) discussion on positive effect of exposure to enhanced input as an important and helpful mode of instruction in promoting the acquisition of complex grammatical structures.

The findings also lend support to Schmidt's (1992, 1994, 1995) claim in that noticing at the level of awareness is necessary and sufficient for converting input into intake for subsequent learning. The results also provide support for the crucial role of metalinguistic knowledge in teaching grammar. The finding also provides support for Sharwood Smith's (1981) findings in that learners of an L2 need to consciously notice forms and meanings represented in the input. This holds that enhancing input (making some forms of an L2/FL highly recognizable) will most likely increase the noticing of relevant aspects and due to presence of attention, input can be converted into intake for learning to occur.

The second research question asked if instruction (explicit vs. input enhancement) has any significant effect on Iranian lower- intermediate EFL learners' explicit knowledge of passive voice as measured by MKT. The results revealed that while the explicit instruction

Table 5 One- way ANOVA on the groups' performance on the MKT as post-test

	Sum of Squares	df	Mean Square	F	Sig.
Between groups	487.869	2	243.934	300.425	.000
Within groups	33.290	41	.812		
Total	521.159	43			

Table 6 Post Hoc tests using Tukey's HSD test for the MKT

(I) Group	(J) Group	Mean difference (I-J)	Sig.
Explicit instruction	Input enhancement	6.933*	.000
	Control	7.119*	.000
Input enhancement	Explicit instruction	-6.933*	.000
	Control	.186	.845
Control	Explicit instruction	-7.119*	.000
	Input enhancement	-.186	.845

Asterisks indicate statistically significant differences between the groups ($p < 0.05$)

group made a significant gain after receiving treatment on total scores of MKT as a measure of explicit knowledge, the means of the input enhancement and control groups had a very slight change from pre-test to post-test, indicating a distinct advantage for the explicit instruction group compared to both the input enhancement and the control groups. The results are consistent with the result of a meta-analysis study conducted by Norris and Ortega (2000) indicating that explicit types of instruction were more effective than implicit ones. According to the results, input enhancement did not have any effects on developing metalinguistic knowledge of target passive voice.

One possible explanation for this result is that without providing detailed explicit instruction, learners might have cognitive difficulty of understanding how a particular structure works as this is clear in the performance of both the input enhancement and the control groups. That is the participants should have metalinguistic awareness about the target structure in order to perform well on MKT. This test seems to encourage the use of rule and focused attention on form. The explicit instruction group received the required metalinguistic knowledge; however, the input enhancement group did not receive any explicit knowledge with respect to the target structures. The superiority of explicit instruction to input enhancement and control groups on the MKT can partly be attributed to the nature of this test that favors more explicit type of knowledge; therefore, it can be suggested that learners provided with formal instruction (grammar-based) will perform differently better than those learners who did not receive grammar-based instruction. This finding provides support for some researchers' (Robinson, 1996; Tomlin & Villa, 1994) claims who believed that this test seems to favor more explicit types of treatments by calling on explicit memory-based performance.

In explicit instruction group, students consciously focused on the target grammatical forms; during treatment sessions, they were involved in rule verbalization tasks and corrections during the treatment sessions. For example, students were explicitly taught to make the passive by putting the correct form of verb "be" and then adding the past participle of the main verb. It seems this newly-made explicit knowledge developed by explicit grammar instruction could facilitate learners' understanding. During the posttest, participants of the explicit group could show their conscious awareness of the target grammatical forms by judging a sentence as being grammatical or ungrammatical or by being able to verbalize the rule that had been violated; it appears they developed awareness at the level of understanding during the course and eventually could outperform the other groups. Moreover, the finding generally provides support for Basturkmen's (2018) claim that explicit instruction leads to explicit learning and knowledge. On the other hand, participants of the input enhancement group were not

overtly taught the target structures; they were expected to deduce rules without awareness. However, the findings indicated that they were unable to recognize grammatically correct and incorrect sentences or verbalize the intended rules. It can be justified that learnability of the implicit instruction is largely dependent on the amount of exposure that learners receive during a long term (DeKeyser & Robert, 2009; Ellis, 2005), that is longer exposure to implicit instruction might lead to different results because this type of learning is a slow and laborious process.

Conclusion and pedagogical implications

The results of the present study demonstrated superiority of explicit instruction group to both the enhanced input and control groups on both measures of explicit knowledge. Additionally, in the case of UGJT, since input enhanced participants progressed better than their peers in control group, we can suggest that manipulation of written input was facilitative to induce short term improvement in the target structure and L2 development and consequently resulted progress in language learning. This finding indicates that learners exposed to some kind of intervention whether explicit or implicit were more successful than those who did not receive any kind of intervention. Therefore, making some linguistic forms more salient and noticeable to draw learners' attention to them can be effective in converting input into intake more significantly. Results also revealed the primacy of explicit instruction group over both the enhanced input and control groups, which indicate accelerating effect of explicit instruction in language learning and necessity of explicit instruction in the case of some language structures in EFL settings. The findings indicated that students were able to absorb selected grammatical forms when they were exposed to explicit instruction of rules and they showed sensitivity to ungrammatical forms in either grammatically judgment or metalinguistic knowledge tests. However, such a sensitivity to ungrammatical forms was not significantly attested in the input enhancement and control groups in MKT, it can be claimed that merely attracting learners' attention to a particular linguistic form (e.g., by bolding) does not appear to have a significant effect on learners' explicit knowledge. Overall, similar to Loewen and Reinders's idea (2011) while implicit instruction can be beneficial, explicit instruction is often considered more effective. Therefore, material developers and language teachers should take into account that, at a general level, instruction regardless of its type can help progress language learning, suggesting a necessity for considering the ways language knowledge will be internalized in learners' mind. Future studies are recommended to investigate the durability or long-term effects of explicit/implicit instructional approaches on explicit knowledge of EFL learners.

Abbreviations

CLT: Communicative language teaching; FonF: Focus-on-form; FonFS: Focus on forms; FonM: Focus-on-meaning; L2/FL: Second/ foreign language; MKT: Metalinguistic knowledge test; SLA: Second language acquisition; UGJT: Untimed grammaticality judgment test

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Availability of data and materials

Data will be available upon request.

Authors' contributions

This article was written based on the first author's master's thesis, which was completed in partial fulfillment for the master's degree. It was completed under the supervision of the second author. Both authors read and approved the final manuscript.

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Competing interests

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References

- Akakura, M. (2012). Evaluating the effectiveness of explicit instruction on implicit and explicit L2 knowledge. *Language Teaching Research*, 16(1), 9–37.
- Alanen, R. (1995). Input enhancement and rule presentation in second language acquisition. *Attention and awareness in foreign language learning*, 259–302.
- Alderson, J. C. Clapham, C., & Steel, D. (1997). Metalinguistic knowledge, language aptitude and language proficiency. *Language Teaching Research*, 1(2), 93–121.
- Basturkmen, H. (2018). Explicit versus implicit grammar knowledge. In *The TESOL encyclopedia of English language teaching* (pp. 1–6).
- Bowles, M. A. (2011). Measuring implicit and explicit linguistic knowledge. *Studies in Second Language Acquisition*, 33(2), 247–271.
- Celce-Murcia, M., Dörnyei, Z., & Thurrell, S. (1997). Direct approaches in L2 instruction: A turning point in communicative language teaching? *TESOL Quarterly*, 31(1), 141–152.
- Chan, M. (2018). Processing instruction in helping map forms and meaning in second language acquisition of English simple past. *The Journal of Educational Research*, 1–13.
- DeKeyser, R. (1995). Learning second language grammar rules: An experiment with a miniature linguistic system. *Studies in Second Language Acquisition*, 17(3), 379–410.
- DeKeyser, R. (2005). What makes learning second-language grammar difficult? A review of issues. *Language Learning*, 55(S1), 1–25.
- DeKeyser, & Robert, M. (2009). Cognitive-psychological processes in second language learning. In *The handbook of language teaching* (pp. 119–138).
- Doughty, C. (2008). Instructed SLA: Constraints, compensation, and enhancement. *The handbook of second language acquisition*, 27, 256.
- Ellis, R. (1991). Grammatical judgments and second language acquisition. *Studies in Second Language Acquisition*, 13(2), 161–186.
- Ellis, R. (1997). *SLA Research and Language Teaching*: ERIC.
- Ellis, R. (2001). Introduction: Investigating form-focused instruction. *Language Learning*, 51(s1), 1–46.
- Ellis, R. (2005). Measuring implicit and explicit knowledge of a second language: A psychometric study. *Studies in Second Language Acquisition*, 27(2), 141–172.
- Ellis, R. (2009). *Implicit and explicit knowledge in second language learning, testing and teaching*, *Multilingual Matters* (Vol. 42).
- Ellis, R. (2016). Focus on form: A critical review. *Language Teaching Research*, 20(3), 405–428.
- Ellis, R., Basturkmen, H., & Loewen, S. (2002). Doing focus-on-form. *System*, 30(4), 419–432.
- Ellis, R., & Loewen, S. (2007). Confirming the operational definitions of explicit and implicit knowledge in Ellis (2005): Responding to Isemonger. *Studies in Second Language Acquisition*, 29(1), 119–126.
- Ellis, R. (2012). *Language teaching research and language pedagogy*. Oxford: Wiley Blackwell.
- Erturk, N. O. (2013). Effects of visually enhanced input, input processing and pushed output on grammar teaching. *Porta Linguarum* (20), 153–167.
- Fordyce, K. (2013). The differential effects of explicit and implicit instruction on EFL learners' use of epistemic stance. *Applied Linguistics*, 35(1), 6–28.
- Hernández, T. A. (2011). Re-examining the role of explicit instruction and input flood on the acquisition of Spanish discourse markers. *Language Teaching Research*, 15(2), 159–182.
- Hinkel, E. (2004). Tense, aspect and the passive voice in L1 and L2 academic texts. *Language Teaching Research*, 8(1), 5–29.
- Hirakawa, M., Shibuya, M., & Endo, M. (2018). Explicit instruction, input flood or study abroad: Which helps Japanese learners of English acquire adjective ordering? *Language Teaching Research* 1362168817752377.
- Izumi, S. (1999). *Promoting noticing and SLA: An empirical study of the effects of output and input enhancement on ESL relativization*. Georgetown University.
- Krashen, S. D. (1981). *Second language acquisition and second language learning*: Oxford University press.

- Lee, L., & Gundersen, E. (2002). *Select readings: Pre-intermediate*: Oxford University.
- Loewen, S. (2007). The prior and subsequent use of forms targeted in incidental focus on form. *Form focused instruction and teacher education: Studies in Honour of Rod Ellis*, 101–116.
- Loewen, S., & Reinders, H. (2011). *Key concepts in second language acquisition*: Macmillan international higher education.
- Long, M. H. (1991). Focus on form: A design feature in language teaching methodology. *Foreign language research in cross-cultural perspective*, 2(1), 39–52.
- Macaro, E., & Masterman, L. (2006). Does intensive explicit grammar instruction make all the difference? *Language Teaching Research*, 10(3), 297–327.
- Moradi, M., & Farvardin, M. T. (2016). A comparative study of effects of input-based, meaning-based output, and traditional instructions on EFL learners' grammar learning. *Research in Applied Linguistics*, 7(2), 99–119. <https://doi.org/10.22055/ral.2016.12096>.
- Myles, F. (2004). From data to theory: The over-representation of linguistic knowledge in SLA. *Transactions of the Philological Society*, 102(2), 139–168.
- Nassaji, H., & Fotos, S. (2004). Current developments in research on the teaching of grammar. *Annual Review of Applied Linguistics*, 24, 126–145.
- Nguyen, T. T. M., Pham, T. H., & Pham, M. T. (2012). The relative effects of explicit and implicit form-focused instruction on the development of L2 pragmatic competence. *Journal of Pragmatics*, 44(4), 416–434.
- Norris, J. M., & Ortega, L. (2000). Effectiveness of L2 instruction: A research synthesis and quantitative meta-analysis. *Language Learning*, 50(3), 417–528.
- Richards, J., Hull, J., & Proctor, S. (2005). *New interchange series*: Cambridge: Cambridge University press.
- Richards, J. C., & Rodgers, T. S. (2014). *Approaches and methods in language teaching*: Cambridge university press.
- Robinson, P. (1996). Learning simple and complex second language rules under implicit, incidental, rule-search, and instructed conditions. *Studies in Second Language Acquisition*, 18(1), 27–67.
- Schmidt, R. (1992). Awareness and second language acquisition. *Annual Review of Applied Linguistics*, 13, 206–226.
- Schmidt, R. (1994). Deconstructing consciousness in search of useful definitions for applied linguistics. *Consciousness in second language learning*, 11, 237–326.
- Schmidt, R. (1995). Consciousness and foreign language learning: A tutorial on the role of attention and awareness in learning. *Attention and awareness in foreign language learning*, 9, 1–63.
- Sharwood Smith, M. (1981). Consciousness-raising and the second language Learner1. *Applied Linguistics*, 2(2), 159–168.
- Sharwood Smith, M. (1991). Speaking to many minds: On the relevance of different types of language information for the L2 learner. *Interlanguage studies bulletin (Utrecht)*, 7(2), 118–132.
- SharwoodSmith, M. (1993). *Input enhancement in instructed SLA studies*. *Studies in Second Language Acquisition*, 15.
- Shintani, N. (2013). The effect of focus on form and focus on forms instruction on the Acquisition of Productive Knowledge of L2 vocabulary by young beginning-level learners. *TESOL Quarterly*, 47(1), 36–62.
- Spada, N., & Tomita, Y. (2010). Interactions between type of instruction and type of language feature: A meta-analysis. *Language Learning*, 60(2), 263–308.
- Takahashi, S. (2001). The role of input enhancement in developing pragmatic competence. *Pragmatics in language teaching*, 171–199.
- Tode, T. (2007). Durability problems with explicit instruction in an EFL context: The learning of the English copula be before and after the introduction of the auxiliary be. *Language Teaching Research*, 11(1), 11–30.
- Tomlin, R. S., & Villa, V. (1994). Attention in cognitive science and second language acquisition. *Studies in Second Language Acquisition*, 16(2), 183–203.
- Umeda, M., Snape, N., Yusa, N., & Wiltshier, J. (2017). The long-term effect of explicit instruction on learners' knowledge on English articles. *Language Teaching Research*. <https://doi.org/10.1177/1362168817739648>.
- White, J. (1998). Getting the learners' attention: A typographical input enhancement study. *Focus on form in classroom second language acquisition*, 85–113.
- Wong, W. (2005). *Input enhancement: From theory and research to the classroom*: McGraw-hill.

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