Grammar Instruction to Young Adolescents at Lower Proficiency Levels Through Metacognitive Intervention

Hossein Bozorgian1, Sediqeh Fallahpour2, & Meysam Muhammadpour3

Abstract
Knowing how to think about the language learning process is conducive to effective learning especially in the case of grammar structures. Metacognition, a concept derived from cognitive psychology, can assist learners in this case. With regard to young adolescents at lower proficiency levels, there is a long-standing debate on whether to use L1 for teaching metacognitive strategies since learners might not be efficient enough in terms of understanding the concept of metacognition. Therefore, this small-scale experimental study focused on the effect of grammar instruction through the metacognitive intervention delivered in L1 on the EFL pre-intermediate learners' grammatical performance in English and investigated their attitudes towards grammar instruction delivered in L1. To fulfill these purposes, a homogenous group of 20 language learners was randomly divided into an experimental group (n =10), which received grammar instruction through the metacognitive intervention delivered in L1, and a control group (n =10), which received the instruction only in English without grammar instruction through the metacognitive intervention delivered in L1. The results of the independent samples t-test indicated that the experimental group did not outperform the control group in terms of all four English grammar points, namely present perfect, simple past tense, comparative and superlative adjectives, and past progressive. In addition, the findings obtained from the five-point Likert scale questionnaire which was distributed among the

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learners suggested that they had positive attitudes towards the use of L1 (Persian) in teaching English grammar. We argue that low working memory capacity, overreliance on translation, and less cognitively activated L2 processes may account for the low performance of the experimental group learners in the grammar tests. The implication is that the L1 use in an L2 classroom can be helpful in teaching L2 grammar through the metacognitive intervention, but future studies need to examine how and to what extent L1 should be used to yield more effective results in the case of lower-proficiency learners in an EFL context.

**Keywords:** English as a foreign language (EFL), first language (L1), grammatical performance, metacognitive intervention, young adolescents
1. Introduction

In an English as a second or foreign language (ESL/EFL) classroom, there is an often-ignored fact implying that the learners and instructors mostly share a first language (L1) not knowing whether to use it in the classroom or not (Macaro et al., 2018; Mahboob & Lin, 2016). The instructors are not sure whether the use of L1 is beneficial or threatening in an ESL/EFL context especially with regard to grammar instruction (Viakinnou-Brinson et al., 2012). Such confusion has led to the formation of opposing views in this regard, some of which are for and some are against its application (Authors, 2015; De la Campa & Nassaji, 2009; de la Fuente & Goldenberg, 2020). On the one hand, the supporters of the L1 use (Adinolfi & Astruc, 2017; García & Kleyn, 2016; Wei, 2018) claim that it is a highly effective and multi-functional catalyst for L2 learning which is applicable to instructional purposes such as translation and clarification of grammatical structures, defining new words, giving oral feedback, class management, homework assignments, and teacher-student rapport. In addition, the bilingual approaches, which are for the use of L1, simply offer the use of both L1 and L2 (English) as the medium for instruction (Mcgroarty, 2001). On the other hand, the critics of the L1 use (Hlas, 2016; Izquierdo et al., 2016; Thompson & Harrison, 2014) argue that overreliance on L1 may deprive learners of the opportunity for meaningful L2 input or exposure and hinder effective L2 development. These views are more adequately unfolded in literature. With regard to young adolescents at lower proficiency levels, previous findings are still inconclusive as to whether to use L1 for teaching metacognitive strategies since learners might not be efficient enough in terms of understanding the concept of metacognition. Therefore, this small-scale experimental study focused on the effect of grammar instruction through the metacognitive intervention delivered in L1 on the EFL pre-intermediate learners’ grammatical performance in English and investigated their attitudes towards grammar instruction delivered in L1.

2. Review of Literature

One of the major theoretical issues that has dominated the field of second/foreign language (L2/FL) learning for decades is the first language (L1) use when teaching or learning L2/FL (Al-Nofaie, 2010; Arshad et al., 2015; de la Fuente & Goldenberg, 2020; Derakhshan & Karimi, 2015). However, Hall and Cook (2012) believed that due to the dominance of the target language within the FL classroom...
pedagogy, L1 is only tapped when difficulties arise, hence referred to as the 'skeleton in the cupboard' (Prodromou, 2002) or 'the elephant in the room' (Levine, 2014). That said, switching between the native and target languages, also known as code-switching, has always been a fascinating phenomenon to sociolinguists (Rabani et al., 2014). Code-switching is the alternating use of two or more languages in the same utterance (Shin et al., 2020; Trebits, 2019) and occurs when a speaker or a learner shares more than one language or dialect (Macaro, 2001). Lin (2007) defines classroom code-switching as the alternating use of more than one linguistic code in the classroom by any of the classroom participants such as the instructor and the learners.

2.1. Theoretical Framework

Informed by the tenets of the Vygotsky's sociocultural theory and Cummins' linguistic interdependence hypothesis, the theoretical framework of the present paper, formulated as follows, supports the use of L1 in an L2 classroom for instructional purposes:

2.1.1. Vygotsky's Sociocultural Theory

According to this theory, L1 plays a pivotal role in the L2 development. Learners use their L1 to communicate with their peers and instructors so as to learn a second or foreign language. In fact they learn on two levels: social (interpersonal) and individual (intrapersonal). First, they interact with other peers and update their prior mental structures or schemata; and later, they direct their attention, store information in the long-term memory, and form concepts (Vygotsky, 1980). Also, instructors can assist learners with understanding new concepts or skills by scaffolding them through L1 use. This mediation within their zone of proximal development, an area for cognitive exploration and preparation, directs their understanding the L2 structures, which may lead them to L2 acquisition.

2.1.2. Cummins' Linguistic Interdependence Hypothesis

According to this theory, there is interdependence between the L1 and L2 when it comes to L2 acquisition, although there are surface differences between the two in terms of lexis or syntax. In fact, they are so fused in our minds that they cannot
function independently and require the same processing system, which facilitates the transfer of proficiency from one language to the next (Cummins, 2007). Therefore, learners' L2 development relies heavily on the extent of their common underlying L1 proficiency since it helps with transfer of cognitive skills across languages.

### 2.2. Monolingual vs. Bilingual L2/FL Classroom

The debate over whether English language classrooms should include or exclude learners’ native language has led to the rise of several supporting and opposing arguments (Macaro et al., 2018). L2/FL educators advocating a monolingual approach believe that learners must be exposed to a significant amount of input, so using L1 in L2/FL classes deprives learners of valuable input (Turnbull, 2001), forces them to employ their mental abilities to understand the meaning of the new language (Al-Nofaie, 2010), and might not necessarily lead to an improvement in their L2 performance (Vosoughi, 2012), especially in the case of grammar tests (Viakinnou-Brinson et al., 2012). The argument is that by thinking in the target language, learners increase their chances of becoming fluent and accurate in that language and avoid interference from their L1 (Liao, 2006). Swain (2000) also emphasizes the importance of engaging learners in collaborative dialogues through which the learners produce language since it provides them with a naturally communicative environment (Cook, 2010). Therefore, there is no place for L1 use in the above-mentioned reviews indicating its prohibition in the classroom.

However, the opponents of this view believed that the exclusive use of L2 by the instructors can ironically make the language learners lose interest in engaging in class discourse both verbally and cognitively or else it might lead to their cognitive overload, confusion, frustration, or utter disengagement. This probably transpires due to the great mismatch between their L2 proficiency and that of their instructor with regard to communicating using the target language (Liu & Zeng, 2015; Macaro & Lee, 2013; Tian & Hennebry, 2016; Zhao & Macaro, 2016). Also, other findings revealed that L1 can serve as a very useful cognitive tool scaffolding learners to achieve success in learning (Antón & DiCamilla, 1998; Scott & de la Fuente, 2008; Thompson & Harrison, 2014).

Liao (2006) contends that using L1 can help learners comprehend L2/FL and check whether their comprehension is correct. It also reduces their learning anxiety
and enhances their motivation to learn L2/FL. Butzkamm (2003) supports the previous reasons for employing L1 and adds that L1 promotes learners’ dependence on L2/FL. In other words, after presenting an L2/FL notion in L1 and asking learners for repetition in L2/FL, learners become more motivated to communicate in L2/FL. Therefore, L1 use should not be ignored as a pedagogical resource where it can be used (Cook, 2010) since it enhances and keeps the flow of communication.

In the same vein, many scholars (e.g. de la Fuente & Goldenberg, 2020; Lee & Levine, 2018; McManus & Marsden, 2017) believed that L1 is a natural practice in L2/FL learning, and it is sometimes a much more time-efficient strategy than using L2/FL only (Liu et al., 2004). Thus, its use may be more appropriate, especially when the instructors and the learners share the same L1 (Rabani et al., 2014). However, the L1 use supporters warn against the excessive use of L1 and endorse a limited, purposeful, and optimal use of it (Adriosh & Razi, 2019; Authors, 2015; Lo, 2014).

Sa’d and Qadermazi (2015) investigated the role of L1 use in EFL classes from the learners’ perspective. They conducted a triangulated study on 60 male Iranian EFL learners and concluded that the learners were in favor of the judicious and limited use of L1 by their instructors for purposes such as clarifying or making intelligible the grammatical points and lexical items and opposed to its overuse to help improve the learners’ speaking and listening skills and maximize their exposure to EFL.

2.3. Instructors’ and Learners’ General Attitudes towards L1 Use in L2/FL Classes

Holding the view that L1 can be used as a resource in L2/FL classes, several studies have demonstrated the instructors’ and learners' attitudes towards the use of L1 in L2/FL classes in different contexts (Hashemi & Khalili Sabet, 2013; Macaro et al., 2018; Rabani et al., 2014). In a recent study, for instance, Zohrabi et al. (2014) investigated the facilitating role of L1 in learning EFL in Azerbaijan. Results showed that both the Azerbaijani-Turkish intermediate EFL learners and their instructors had positive views towards the use of Turkish in learning English vocabulary. Hashemi and Khalili Sabet (2013) examined the perception of Iranian EFL learners and instructors towards the effective use of L1 and L2 in General English classes at the university level and found that the Iranian EFL learners
believed that L1 use was effective in EFL classes whereas their instructors were mostly the proponents of L1 exclusion from the EFL classroom. In another study, Tajgozari (2017) used a mixed-methods design to find out the instructors’ and learners’ perceptions toward the use of L1 in EFL classes in institutions through both questionnaires and interviews. The results of this research showed that both learners and instructors had positive attitudes towards L1 use.

Wach and Monroy (2020) also conducted a study examining the beliefs of Spanish and Polish learners about L1 use in teaching English. Both groups in their study believed that it was necessary to use the L1 when teaching learners of lower proficiency levels. However, the Spanish learners' attitude towards the L1 use was balanced with a negative inclination, whereas the Polish learners' attitude toward the L1 use was balanced with a positive inclination. The researchers maintained that factors such as individual variation and earlier learning experiences might have affected the teacher-trainees' beliefs regarding the use of L1 in L2 instruction.

De la Colina and Mayo (2009) maintained that using L1 provides cognitive support for language learners to promote their attention and comprehend meaning more effortlessly. In fact, the learners can undertake thinking and self-regulation more rapidly and thus transfer their metacognitive skills to the L2 with more ease. This is in line with the main purpose of many language learners' high level of performance, and the central objective of many language courses. Therefore, to help L2/FL learners to enhance their performance in using a second or foreign language, the instructors should attentively consider proper pedagogy and instruction (Alibakhshi et al., 2017; Author, 2014; Roohi et al., 2016).

2.4. Metacognitive Intervention

The concept of metacognition can be defined as thinking about thinking (Anderson, 2002). According to Flavell's (1976, p. 232) definition, metacognition is “one’s knowledge concerning one’s own cognitive processes or anything related to them.” The use of metacognitive strategies, according to Anderson (2002), leads to an improvement in learning and performance since it provides an understanding and control of cognitive processes. Thus, classroom instructors can teach metacognitive strategies in addition to the cognitive ones since they allow the learners to plan, control, and evaluate their learning strategies (Authors, 2020; Anderson, 2002; Vandergrift & Baker, 2015). However, as Anderson (2002) puts it, metacognitive
strategies can be categorized into: "1) preparing and planning for learning, 2) selecting and using learning strategies, 3) monitoring strategy use, 4) orchestrating various strategies, and finally 5) evaluating strategy use and learning" (p. 2).

3. The Present Study

Second language instructors can help learners to think about the language learning process aimed at developing stronger learning skills (Anderson, 2002; Authors, 2020; Janusik & Varner, 2020; Vandergrift & Goh, 2012). Accordingly, the present study looks into the effects of code-switching by the instructors during the metacognitive intervention for grammar instruction on the learners' performance in English grammar and the learners' views of its use. In this particular study, code-switching is the alternating use of English and Farsi and the focus is on grammar instruction in an EFL context through metacognitive intervention. Hence, this study aims to answer the following two research questions:

1. Does teaching grammar through metacognitive intervention in L1 have any significant effect on pre-intermediate EFL learners' performance in English grammar?
2. What are the pre-intermediate EFL learners' attitudes towards receiving grammar instruction delivered in L1?

4. Methodology

4.1. Participants

The convenience sampling was used to select the participants. In this regard, two classes were in approximately comparable conditions in terms of the number of the participants, their proficiency level, gender, age, culture, etc., that is, both classes had a total of 26 male and female learners in the range of 12 to 16 years of age. However, Oxford Placement Tests (OPTs) were given to all the learners and 22 were eligible to participate in this study since they were at pre-intermediate proficiency level. Two learners declined to participate either in the pre- and posttests or in intervention sessions. Therefore, they were excluded from this cohort study and the remaining 20 learners were selected as the participants of this study. To fit the purposes of the current study, the experimental group (n = 10) was taught the grammar features, namely present perfect, simple past tense, comparative and superlative adjectives, and past progressive, using an L1-delivered metacognitive
intervention while the control group \((n = 10)\) was taught the grammar using FL without undergoing the metacognitive intervention. Both groups received instruction on four similar grammatical points for eight sessions.

4.2. Instruments and Materials

The instruments and materials used for this study were an OPT exam, a textbook, a workbook, a pretest, a posttest, and a questionnaire.

The Oxford Placement Test (OPT, Allan, 2004) includes 200 multiple-choice items in two sections, namely listening and grammar. The listening section, which contains 100 questions, requires the participants for example to check the word ("oarsman" or "horseman") they hear. In addition, the grammar section contains 100 questions focused on typical verb tense and sentence structure. Learners normally are given a maximum of 60 minutes to take the test. This test has a high measure of reliability calculated as 0.94 (Geranpayeh, 2003). A number of major international language examinations such as the IELTS, TOEFL, TOEIC, Cambridge ESOL Main Suite, etc. have used it as a standard scale.

*Family and Friends 5* (American English, Thompson, 2010) textbook and workbook focused on four macro-skills (listening, speaking, reading, and writing) in English language learning through CLT.

The pretest and posttest used in the present study were adopted from Murphy's (2007) *Essential Grammar in Use* and consisted of the four grammar features covered in the classroom during the eight sessions of intervention. One common pretest was given to both groups of the learners before each intervention session. Also, a session after the intervention, a common posttest was given to them to examine their progress and check the effect of L1 use while instructing grammar on the learners' performance. The average reliability of the pretest and posttest was measured through Cronbach’s alpha, respectively \((r = 0.91; \ r = 0.89)\), which is indicative of high internal consistency (Larson-Hall, 2010). The validity of the tests was confirmed by means of the Aiken's V validity index after three experts assessed the instrument.

The students’ questionnaire of the Use of L1 in L2 Classrooms, adapted from Elmetwally (2012), was used in the present study to examine the learners’ attitudes toward using Persian in English classrooms. The original questionnaire was
developed for examining the learners' attitudes toward using Arabic. A five-point Likert scale ranging from ‘Strongly Disagree’ to ‘Strongly Agree’ was used in the questionnaire. It included two main parts, the first part with 12 items focusing on learners’ perceptions (items 1-12), and the second part with 8 items focusing on the various learning occasions when Persian could facilitate learning English (items 13-20). The researchers primarily gave the participants the instructions. The respondents then received the questionnaire in English. Besides, the researchers provided any support for them to fully understand the questionnaire items. The reliability of the questionnaire was determined using the KR-21 formula as \( r = .89 \) after a pilot study. The content validity of the questionnaire was also confirmed by two experts at the University of Mazandaran.

4.3. Procedure

A 28-year old Iranian male English instructor with 10 years of teaching experience was responsible for teaching both classes. He had a bachelor's degree in TEFL. He was trained by the researchers to present the intervention and was monitored a few random sessions to examine whether he had followed the lesson plan for the intervention. He reported on any difficulties the learners encountered during the intervention and the researcher provided advice on how to solve them. The instructor taught macro-skills including listening, speaking, reading, and writing through the Communicative Language Teaching (CLT) approach suggested by the Family and Friends 5 instructors' guidebook. Both classes were held in the same institute in Iran, emphasizing the same norms, standards, and regulations. The book taught in both classes was Family and Friends 5. Despite following the CLT method, the instructor was allowed to use appropriate techniques to meet the learners’ learning needs in the classroom.

Also, the researchers gave adequate explanations to the participants about the purpose and process of the intervention in L1 emphasizing that participation in the study was optional before teaching the grammar throughout the metacognitive intervention sessions. All the learners in the class agreed to participate since participation did not require additional time outside of the classroom. To achieve the aim of this study, four grammatical points (present perfect, simple past tense, comparative and superlative adjective, past progressive) were taught through metacognitive strategies and each grammatical point took two sessions. The choice of the four grammatical points was based on the learners' common errors, reported
by their own instructor. Before starting the lesson each week, the learners in the experimental group were given the first pretest regarding the grammatical points. A session after the intervention, they were given the posttest. All the tests were given to the learners during normal class hours. Each test took learners between 30-45 minutes on average.

No other skills were taught during the grammar instruction sessions and the focus was only on teaching and exercising the grammatical points. The participants of the experimental group attended an eight-session intervention program, which involved metacognitive strategies instruction while teaching four grammatical points of the English language. The participants attended the intervention program every other week, each lasting for about 60-70 minutes. They were taught a new grammatical point every other week because the other sessions in between were allocated to teaching the other macro-skills and parts of the book. This was in line with the recommended syllabus by the course designer. The instructor was also very supportive of the research project and encouraged his learners to participate fully in the study.

Learners in the control group were taught the grammatical points using the regular CLT approach requiring all macro-skills to be taught and paid attention to in the class. The same instructor used L2 while teaching grammar, but he did not use the metacognitive intervention in the classroom either.

4.3.1. Pretest, Intervention, and Posttest

The researchers used the intervention because the learners had some problems regarding the grammatical points. Below are some examples of the errors made by the learners in their regular classroom.

Regarding the present perfect tense, several learners used have/has + the base form of the verb or the bare infinitive (e.g. I have visit my grandma). Regarding the simple past tense, several learners used d/ed even after the irregular verbs (e.g. I wanted to the gym and played basketball). Regarding comparatives and superlatives, several learners used more + adjective + er/ the most + adj + est or used more and the most with the exceptions like best and worst (e.g. (a) He was the most cleverest student in the class; (b) It was my most worst memory). Regarding the past progressive tense, several learners used it even with stative verbs (e.g. I was
having an umbrella in that rainy day).

After providing the participants with enough information about the research, the researchers gave the experimental and control groups a pretest. After the pretest, the intervention was done and afterwards, a posttest was given to both groups. Then, the learners' performance on the tests were evaluated and compared to find the effect of L1 use in instructing grammar through metacognitive strategies on the learners' performance.

4.3.2. Intervention (Grammar Instruction through Metacognitive Strategies in L1)

The intervention has taken four weeks and eight sessions – two sessions per week. The instructor taught each grammatical point as well as the relevant exercises in L1 through metacognitive strategies (see Table 1) in one session, and the learners had enough time to practice in and out of the class. The instructor followed the five-stage learning process through metacognitive strategies instruction (Anderson, 2002; Vandergrift & Goh, 2015) to teach grammar in L1 in each session.

In stage one, after explaining the metacognitive strategies and introducing key concepts, the instructor asked the learners to predict the grammatical point intended to be taught by providing enough input along with several related examples (Preparing and planning for learning). The instructor introduced some grammar learning strategies, such as connecting the old information to the new one, and then asked the learners to find the structures they had learned before from the previous lessons through thinking (Selecting and using learning strategies).

In stage two, the instructor asked the learners again to check the effectiveness of their strategy and use the one that best fitted their intended context (Monitoring strategy use). The instructor requested them to guess the organization of the sentences (Selecting and using learning strategies).

In stage three, the learners were asked to use what they understood as the new information in their own sentences to monitor their understanding by thinking about whether they have correctly understood the grammatical point or not (Monitoring strategy use).

In stage four, the instructor asked them to re-hypothesize and re-start their predictions if they could not successfully understand the grammatical point of the sentences (Evaluating strategy use and learning). The learners were asked to make
Inferences from the previous stages and infer the grammatical point (Orchestrating various strategies).

In stage five, the instructor himself taught the grammatical point intended and asked the learners to evaluate their findings by asking themselves how well they could figure it out (Evaluating strategy use and learning). They were again asked to reflect on which strategies helped them and which were not helpful (Evaluating strategy use and learning) (see Table 1).

### Table 1
**Metacognitive Strategies Instruction (Anderson, 2002)**

<table>
<thead>
<tr>
<th>Metacognitive Strategies</th>
<th>Unpacking Metacognitive Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparing and Planning for Learning</td>
<td>Preparation and planning in relation to a learning goal as two main metacognitive strategies can improve learning through engaging learners in thinking about their goal and how to accomplish it.</td>
</tr>
<tr>
<td>Selecting and Using Learning Strategies</td>
<td>Through these two metacognitive strategies, the learners can think and make conscious decisions about the learning process in a given context and for a specific purpose.</td>
</tr>
<tr>
<td>Monitoring Strategy Use</td>
<td>This strategy helps the learners to better meet their learning goals by asking themselves occasionally whether or not they are still using those strategies as intended.</td>
</tr>
<tr>
<td>Orchestrating Various Strategies</td>
<td>Knowing how to coordinate, organize, and make associations among the various strategies is an important metacognitive strategy which distinguishes between strong and weak second language learners.</td>
</tr>
<tr>
<td>Evaluating Strategy Use and Learning</td>
<td>This metacognitive strategy involves learners in evaluating the effectiveness of what they are doing and reflecting on it. The whole cycle is evaluated during this stage of metacognition.</td>
</tr>
</tbody>
</table>

In week one, the instructor taught the simple past tense and elaborated on the differences between the past simple and present perfect tenses (e.g., using the simple past to talk about actions that started and finished in the past - used to talk about habits in the past that are not true anymore – and using ever and never with present perfect tense to ask whether someone has done something up to now or not). The instructor explicitly taught learners a variety of learning strategies and also when and how to use them, and explained that each strategy would work in a specific situation and how the learners should choose the best one while using simple past tense.

In week two, the instructor taught the first grammatical point in L1 through metacognitive strategies, being the present perfect tense including the use of
positive, negative, and interrogative forms of the present perfect tense using "for" and "since" (e.g., present perfect: have/has + past participle- using the present perfect to talk about actions in the past that are still true now, using the present perfect with since to talk about past actions after a certain time or date, and using the present perfect with for to talk about past actions in a period of time). Oral and written instructions were given to the learners using a whiteboard. The instructor clearly explained the particular learning goals set for the class, which was the present perfect tense, and guided the learners in setting their own goals to help them measure their own progress through related activities.

In week three, the instructor worked on the past progressive tense and explained its differences with the simple past tense (e.g. past progressive: was/were + verb + ing- using the past progressive for describing actions or events which began in the past and continued for some time, or happened before and after a particular time, using the past progressive to talk about actions that were interrupted in the past, but using the simple past to talk about actions that interrupted another action in the past).

In week four, the grammatical point taught focused on the comparative and superlative forms of the adjectives (e.g., using the as ... as structure to show that there is no difference between two people or things, using the not as ... as structure to show that there is a difference between two people or things, using comparatives: adjective + er than/ more + adjective + than, to show the difference between one thing or person with another thing or person, using superlatives: the + adjective + est/ the + most + adjective, to show the difference between one person or thing and the whole of that class). During that session, the instructor explained the uses of these forms and their exceptions.

### 4.4. Data Analysis

In order to answer the first research question, an independent samples t-test (see Table 2) was used to compare the two groups before and after the intervention to examine the possible effect using the Statistical Package for the Social Sciences (SPSS) version 24 to analyze the learners’ performance in grammar. The t-test was run after the assumptions of normality and equality of variances was met.

To answer the second research question, the learners’ responses on the five-point Likert scale questionnaire were tallied up and then converted to percentages to have measurable quantitative data easier to be interpreted.
5. Results

An independent samples t-test was conducted to compare the scores of the participants in both groups to determine whether the difference between the mean scores of the two groups in the pretest was significant. Table 2 shows the descriptive information of the pretest needed for deciding whether the two groups were homogeneous. With respect to the present perfect tense, there was not a significant difference between the control group 1 ($M = 12.72$, $SD = .53$) and the experimental group 1 ($M = 12.90$, $SD = .55$) in terms of the pretest scores, $t(18) = .71$, $p = .48$. Regarding the simple past tense, there was no significant difference between the control group 2 ($M = 13.82$, $SD = .26$) and the experimental group 2 ($M = 14.00$, $SD = .20$) either in terms of the pretest scores, $t(18) = 1.65$, $p = .11$. Concerning the comparatives and superlatives, no significant difference was observed between the control group 3 ($M = 13.67$, $SD = .16$) and the experimental group 3 ($M = 13.52$, $SD = .34$) in terms of the pretest scores, $t(18) = -1.24$, $p = .23$. With regard to the past progressive tense, no significant difference was observed between the control group 4 ($M = 14.6$, $SD = .56$) and experimental group 4 ($M = 14.50$, $SD = .40$) in terms of the pretest scores, $t(18) = -.79$, $p = .43$. Therefore, it can be concluded that the difference between the means of the pretest scores for the two groups was not significant regarding the four grammatical structures.

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Pretest</td>
<td>Posttest</td>
<td>Pretest</td>
</tr>
<tr>
<td>Control Group 1 (Present Perfect)</td>
<td>10</td>
<td>12.72</td>
<td>14.55</td>
<td>.53</td>
</tr>
<tr>
<td>Experimental Group 1 (Present Perfect)</td>
<td>10</td>
<td>12.90</td>
<td>15.26</td>
<td>.55</td>
</tr>
<tr>
<td>Control Group 2 (Simple Past)</td>
<td>10</td>
<td>13.82</td>
<td>15.12</td>
<td>.26</td>
</tr>
<tr>
<td>Experimental Group 2 (Simple Past)</td>
<td>10</td>
<td>14.00</td>
<td>16.85</td>
<td>.20</td>
</tr>
<tr>
<td>Control Group 3 (Comparatives and Superlatives)</td>
<td>10</td>
<td>13.67</td>
<td>13.85</td>
<td>.16</td>
</tr>
<tr>
<td>Experimental Group 3</td>
<td>10</td>
<td>13.52</td>
<td>13.65</td>
<td>.34</td>
</tr>
</tbody>
</table>
After administering the posttest to both groups, an independent *t*-test was conducted to determine whether there was any statistically significant difference between the mean scores of the two groups. As shown in Table 2, in the case of the present perfect tense, there was a significant difference between the control group 1 (\( M = 14.55, \ SD = .48 \)) and the experimental group 1 (\( M = 15.26, \ SD = .64 \)) in terms of the posttest scores, \( t \ (18) = 2.78, \ p = .01. \) Results of a paired samples *t*-test also indicated a significant difference between the scores from pre- to posttest (\( t \ (19) = -10.63, \ p = .00. \)). In the case of the simple past tense, there was also a significant difference between the control group 2 (\( M = 15.12, \ SD = .66 \)) and the experimental group 2 (\( M = 16.85, \ SD = .71 \)) in terms of the posttest scores, \( t \ (18) = 5.55, \ p = .00. \) Results of a paired samples *t*-test also indicated a significant difference between the scores from pre- to posttest (\( t \ (19) = -9.01, \ p = .00. \)). However, in the case of the comparatives and superlatives, no significant difference was observed between the control group 3 (\( M = 13.85, \ SD = .33 \)) and the experimental group 3 (\( M = 13.65, \ SD = .29 \)) in terms of the posttest scores, \( t \ (18) = -1.41, \ p = 0.17. \) Results of a paired samples *t*-test also indicated a lack of significant difference between the scores from pre- to posttest (\( t \ (19) = -1.67, \ p = .11. \)). Also, in the case of the past progressive tense, no significant difference was observed between the control group 4 (\( M = 14.97, \ SD = .74 \)) and the experimental group 4 (\( M = 14.62, \ SD = 1.04) \) in terms of the posttest scores, \( t \ (18) = -.86, \ p = 0.39. \) Results of a paired samples *t*-test also indicated a lack of significant difference between the scores from pre- to posttest (\( t \ (19) = -1.32, \ p = .20. \)).

It is obvious that the effect of using L1 on the pre-intermediate EFL learners' grammar performance has been significant for two grammatical structures but insignificant for the other two. Therefore, as the result of the above-mentioned analyses reveals, using L1 through metacognitive strategies for teaching grammar does not necessarily improve the grammar performance of Iranian EFL learners.
Therefore, it is better to be conscious of its limited and occasional use in an EFL context.

In regard to the second research question, this section aims at analyzing learners’ responses to the questionnaire items to investigate their attitude towards the use of L1 in an EFL classroom. The Five-Likert scale questionnaire distributed among the learners includes twenty items: items one to 12 focus on learners’ perception toward using Persian in EFL classrooms, whereas items 13 to 20 explore the potential learning occasions where using Persian in English classrooms may be beneficial.

In order to examine the overall attitude of the learners toward the use of Persian in English classrooms, the obtained responses were converted to percentages, as this allowed for easy interpretation.

**Figure 1**
*Learners’ Overall Attitude toward Using Persian in English Classrooms in Percentages (N=20)*

Figure 1 illustrates the learners’ overall attitude toward using Persian in English classrooms in percentages. As can be seen from this figure, the surveyed learners have an overall positive attitude regarding the use of their L1 in EFL classrooms. A high percentage of the learners (a total of 66.58% for both agree and strongly agree) are in favor of using Persian when learning English, whereas a lower percentage of the responses indicates negative (a total of 10.23% for both disagree and strongly disagree) and neutral (23.19%) attitudes.
Table 3

*Learners’ Overall Attitude toward Using Persian in English Classrooms per Item (N=20)*

<table>
<thead>
<tr>
<th>Items</th>
<th>Overall Attitude</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>1 Persian should be used in all English classes.</td>
<td>0%</td>
</tr>
<tr>
<td>2 I would like my English instructor to use Persian in 0% class.</td>
<td>5%</td>
</tr>
<tr>
<td>3 I feel more comfortable when my instructor uses Persian in 0% class.</td>
<td>5%</td>
</tr>
<tr>
<td>4 Using Persian in class helps me learn English.</td>
<td>0%</td>
</tr>
<tr>
<td>5 Learners should be allowed to use Persian in class.</td>
<td>0%</td>
</tr>
<tr>
<td>6 I understand the lesson much better when the instructor uses Persian.</td>
<td>0%</td>
</tr>
<tr>
<td>7 I prefer not to use Persian in English classes.</td>
<td>20%</td>
</tr>
<tr>
<td>8 Using Persian motivates me to participate more in English classroom activities.</td>
<td>0%</td>
</tr>
<tr>
<td>9 Using Persian in class helps me learn English better.</td>
<td>0%</td>
</tr>
<tr>
<td>10 Using an English-Persian dictionary helps me understand the new vocabulary.</td>
<td>0%</td>
</tr>
<tr>
<td>11 Using Persian prevents me from learning English.</td>
<td>15%</td>
</tr>
</tbody>
</table>

Table 3 shows the learners’ overall attitude toward using Persian per item on the questionnaire (items 1-11). As can be seen from this table, 45% of the learners believed that L1 should be used in all English classes, whereas 55% did not share the same opinion. About 55% preferred their instructor to use Persian while teaching and 70% felt more comfortable in such a case. A high percentage of the learners (70%) asserted that using Persian in class helped them to learn English. Also, 65% of the learners agreed that using L1 motivated them to participate more in English classroom activities. A majority of the learners (80%) asserted that using L1 in class helped them to learn English better and 85% of them wanted to be free to use it. In addition, 65% of the participants believed that using an English-Persian
dictionary helped them to understand the new vocabulary. On the other hand, items seven and 11 show a negative attitude toward the use of Persian in English classrooms. About 5% of the learners did not prefer to use Persian in English classes and 35% believed that it prevented them from learning English which might be attributed to their belief in maximum exposure to the English language.

Table 4
Learners’ Overall View Regarding the Frequency of Using Persian in English Classrooms (N=20)

<table>
<thead>
<tr>
<th>#</th>
<th>Items</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>How often do you think Persian should be used?</td>
<td>0</td>
<td>0</td>
<td>45</td>
<td>45</td>
<td>10</td>
</tr>
</tbody>
</table>

Table 4 shows the learners’ overall view regarding the frequency of using Persian in English classrooms reporting that all the learners wanted Persian to be used in the English classroom since none of them marked "never" and "rarely". About 45% of the learners indicated that L1 should ‘sometimes’ be used in English classrooms, and 45% also mentioned that it should ‘rarely’ be used. However, only 10% were in favor of the use of Persian for "always".

Table 5
Learners’ Overall View Regarding the Learning Occasions Where Using Persian During English Classes May Be Beneficial (N=20)

<table>
<thead>
<tr>
<th>#</th>
<th>Items</th>
<th>Overall Attitude</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>13</td>
<td>I understand English grammar better when it is explained in Persian.</td>
<td>0%</td>
</tr>
<tr>
<td>14</td>
<td>Persian should be used to explain new vocabulary items.</td>
<td>0%</td>
</tr>
<tr>
<td>15</td>
<td>Using Persian helps understand the English idioms and expressions.</td>
<td>0%</td>
</tr>
<tr>
<td>16</td>
<td>It’s better to use Persian to explain the differences and similarities between Persian and English.</td>
<td>0%</td>
</tr>
</tbody>
</table>
Using Persian helps me express my feelings and ideas when I fail to do that in English.

Learners should be allowed to use Persian in pair/small-group work.

Instructors should use Persian to explain difficult concepts.

Persian should be used to facilitate complicated English classroom tasks.

Table 5 presents the learners’ overall view regarding the potential learning occasions where using Persian in English classrooms may be beneficial. The learners show a positive attitude on almost all the listed items. The majority of the learners believe that their instructors should use Persian to explain difficult grammatical concepts (65%) and new vocabulary items (70%). Also, a high percentage of the surveyed learners believed that they understand English expressions better when it is explained in Persian (85%). With almost the same percentage, the learners think that the differences and similarities between the two languages are better to be explained through Persian. 50% of the learners want to be free using their L1 when expressing their feelings on an issue. With the same attitude, 75% of them think that they should be allowed to use L1 in pair and small-group work (75%). In addition, according to 75% of the positive responses, L1 should be used to explain difficult concepts in complicated English classroom tasks. As was explored and presented comprehensively in this section, the learners’ responses indicated that they mostly had a positive attitude toward the L1 use in their English class.

6. Discussion

The present small-scale experimental study investigated the effect of grammar instruction in L1 through metacognitive intervention on EFL pre-intermediate learners’ grammatical performance in English and examined their attitudes towards grammar instruction in L1. Addressing the first research question, the findings suggested that in the case of all four grammatical structures, the experimental group, which received the metacognitive intervention combined with L1 use, did not significantly outperform the control group, which received the instruction only in English without undergoing the metacognitive intervention.
The findings of the present paper are in agreement with those of Viakinnou-Brinson et al. (2012) where the combined L1-L2 group (L1 was used to explain L2 examples) did not make a significant gain in terms of the multiple-choice grammar tests from pre- to posttest. The authors explained the low performance by referring to less-cognitively activated L2 processing and overreliance on translating the grammatical sentences, which also accords with the results of Vosoughi's (2012) study.

In addition, the findings are in line with the belief that instructors should teach through the medium of L2/FL, which should be the main focus of a curriculum (Macaro et al., 2018). This is supported by the grammar test scores of the control group for which L2 was only used in the present study. The control group participants could perform almost as well as their experimental group counterparts who underwent grammar instruction through the metacognitive intervention delivered in L1. The findings, therefore, disagree with those of other researchers (Liu & Zeng, 2015; Macaro & Lee, 2013; Tian & Hennebry, 2016; Zhao & Macaro, 2016) who maintained that the exclusive use of L2 by the instructors will probably lead to an utter disengagement and frustration on the part of the L2 learners.

The findings of the present study, therefore, do not wholly conform to the views of the proponents of L1 use (de la Fuente & Goldenberg, 2020; Lee & Levine, 2018; McManus & Marsden, 2017) who believed that it is a useful cognitive tool which decreases anxiety, increases motivation (Butzkamm, 2003), and scaffolds learners to achieve success in learning (Antón & DiCamilla, 1998) so as to comprehend L2/FL and monitor their comprehension (Liao, 2006). Nor do they conform to the findings of the scholars who endorsed a limited, purposeful, and optimal use of it (Adriosh & Razi, 2019; Authors, 2015; Lo, 2014).

The findings also run counter to those of De la Colina and Mayo's (2009) in that the L1 use did not lead to an effortless comprehension of meaning on the part of the learners since it failed to provide them with the cognitive support they were in need of in this regard. As a result, the learners were unsuccessful in terms of rapid thinking and self-regulation let alone transferring their metacognitive skills to the L2.

Also, the use of metacognitive strategies when teaching grammar in this study did not lead to a significant and meaningful improvement in the experimental group learners’ L2 grammar performance. This is in dissonance with the findings of the
Authors’ (2020) study, which revealed that the metacognitive intervention does improve the learner’s L2 performance. The reason might be that the pre-intermediate level learners of the present study were not efficient enough in terms of comprehending the five-stage learning process and therefore could not put the metacognitive strategies into practice when taking the grammar test. It might also be related to their low working memory capacity (Authors, 2020) or overreliance on the translation of target grammatical structures (Vosoughi, 2012) which might have led them to focus on L2 vocabulary but not L2 grammatical structures. These factors can be examined in future studies.

Turning to the second research question, the findings obtained from the questionnaire distributed among the learners indicated the positive attitude of most L2/FL learners towards the L1 use and confirmed the findings obtained by researchers such as Hashemi and Khalili Sabet (2013), Tajgozari (2017), and Zohrabi et al. (2014). In general, the learners believed that using Persian facilitates learning and helps them to study English better. They also mentioned that they could benefit very much from using Persian when having problems understanding instructors’ instructions or expressing their own views and feelings. However, some learners indicated that using L1 should be kept to the minimum, as it deprives them of maximum exposure to English. Both views accord closely with the findings of Wach and Monroy’s (2020) study where there were differences between the beliefs about the effectiveness of L1 use when teaching an L2 linguistic element, expressed by Polish and Spanish EFL teacher-trainees. The differences in the learners’ views in the present study can be attributed to the role of contextual factors present in earlier L2 teaching and learning environments where the participants were engaged. This prior experience could have affected both the instructor’s and the learners' beliefs regarding the use of L1 in L2 instruction.

The findings obtained from the questionnaire in terms of the learners' general view about the learning occasions where using Persian in English classes may be beneficial are also in line with the findings presented by Thompson and Harrison (2014) and Scott and de la Fuente (2008). The occasions for which the learners believed that the use of L1 could be helpful include when expressing ideas in L2 is impossible or the learners are not proficient enough to communicate in L2/FL (Thompson & Harrison, 2014), and when they explain tasks, negotiate their roles, seek help in peer or group works, and use translations of target sentences to identify the accurate meanings of grammatical structures (Scott & de la Fuente, 2008). The learners’ responses also highlighted many
other learning situations where Persian could be used. For example, they believed that Persian may be used to introduce the new vocabulary and difficult concepts, present new grammar rules, and show the differences between Persian and English structures. Learners also believed that it may be beneficial in pair/group work in terms of receiving support from each other (Scott & de la Fuente, 2008).

7. Conclusion

This study investigated the effect of using metacognitive intervention for grammar instruction in L1 on the pre-intermediate learners’ performance in English grammar in EFL classes as well as the learners' attitudes towards L1 use. The results obtained showed that the use of L1 in grammar instruction did not have a significant effect on the learners' performance in grammar tests. However, the findings of the questionnaire indicated that the learners mostly had positive attitudes towards using L1 in EFL/ESL classrooms and provided a detailed description and an analysis of their general attitudes towards using L1 for various purposes including, giving instructions by instructors, introducing new vocabularies and difficult concepts, presenting new grammar rules and showing the differences between Persian and English, working in pairs/groups to receive support from each other as well as presenting their own ideas.

In drawing up the above-mentioned conclusions, we used a small-scale sample and the limitations thereof were as follows. First, the sample size in this quantitative analysis was not large enough which calls for further exploration including a larger sample, that is, since the number of participants under study was small, it could not represent a generalization of the whole population of EFL learners. Second, it only considered the learners' views on the issue of L1 use, while further studies may also focus on both the instructors' and learners' views. Finally, it exclusively concentrated on the effect of L1 use in grammar instruction on the learners' grammar performance. Therefore, future studies can extend this line of research and investigate the effects of using metacognitive intervention on the learners' performance in other areas of second or foreign language learning and focus on more participants.
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