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Application of Grammatical Judgment Tests to the Measurement of Explicit versus Implicit Knowledge in EFL Classroom

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Abstract
The distinction between implicit and explicit grammatical knowledge and their distinct roles and contributions to second language acquisition has long been the subject of debate among second language acquisition researchers (Ellis, 2004). However, explicit instruction has scarcely been experimented with versus implicit instruction in terms of developing grammatical ability and also differential accessibility of EFL learners' explicit and implicit grammatical knowledge to their language proficiency. To bridge this gap, an investigation was accomplished to illuminate the relationship between EFL learners' explicit/implicit grammar knowledge and their general language proficiency. To this end, 40 EFL learners participated in the first phase of the study. While the participants in the first experimental group received an explicit interventional program, the second experimental group benefitted from enhanced input instruction. The results indicated the superiority of explicit instruction in developing explicit grammar knowledge among the EFL participants. For the sake of the second phase of the study, a sample population of 140 EFL learners was asked to complete the Timed and Untimed Grammatical Judgment Test and the sample TOEFL language proficiency test. A set of correlation coefficients was run and the results revealed that there was no significant correlation between the EFL participants' implicit knowledge and their language proficiency, while the findings confirmed a statistically significant relationship between EFL learners' explicit grammar knowledge and the subcomponents of their general language proficiency. The findings have some pedagogical implications for EFL teachers, practitioners, and also material developers.

Keywords: Explicit instruction; Grammatical Judgment Test; implicit instruction; Ungrammatical Judgment Test

INTRODUCTION

Instructed language learning differs from the naturalistic language learning that takes place in the first language (L1) acquisition and in untutored L2 acquisition. However, it does not follow those contextual differences that are necessarily reflected in differences in the cognitive and social processes involve the d in acquisition. Indeed, what is of interest to SLA researchers is to see if instruction does involve different learning processes.

As Ellis (2008) points out, instruction as an intervention in the process of language learning is of the two types direct and indirect direct instruction involves providing learners with explicit information about the target of the instruction, along with opportunities to practice the target features, referring to explicit instruction. Through explicit instruction, the teachers encourage intentional learning on the part of the learner (Ellis, 2009, 2010). Nevertheless, indirect instruction involves setting up opportunities for learners to learn without spe-

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cifying what the target of the instruction is. That is to say, there is no provision of explicit information about the target feature, although there are opportunities to engage in the use of it. This type of instruction is viewed to be an implicit type. Ellis (2004) states that explicit instruction is the conscious awareness of the structure of a language. Ellis claims that language acquisition can be speeded up by explicit instruction and without any focus on form or consciousness-raising, formal accuracy is an unlikely result. Undoubtedly, the issue of explicit and implicit knowledge has attracted a lot of attention. As Ellis (2005) points out, explicit knowledge is 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.

Moreover, several studies have been accomplished on the effectiveness of explicit instruction versus implicit teaching in the second language learning process; however, there exist many different opinions concerning the superiority of explicit instruction versus implicit instruction so extensive research is still needed to elucidate the role of these two types of instruction. Moreover, Ellis (2006) argues that learners' explicit and implicit grammatical knowledge do not equally correlate with their general language proficiency. Also, Elder and Ellis (2009) indicate that only explicit grammatical knowledge of the learners guage proficiency. Although many studies (Dekeyser, 1995; Ellis, 2006, 2009; Norris & Ortega, 2000) confirm the fact that grammar instruction causes second language development, the implicit/explicit distinction is equally important for understanding the nature of proficiency among the learners, further investigation is still needed for differential accessibility of explicit/implicit knowledge types to their language proficiency.

REVIEW OF LITERATURE

The effectiveness of teaching under the tenets of the two types of explicit and implicit instruction has always been a matter of controversy for many decades. Many researchers (Doughty & Williams, 1998; Ellis, 2008) believe that explicit instruction is more effective for learners, whereas other educators believe that implicit instruction is more beneficial for learners. Explicit instruction is rule explanation and learners are directly asked to attend to particular forms (Dekeyser, 1995). Therefore, the instructions such as rule explanation, error correction, contrastive analysis of L1 and L2, and metalinguistic rules are parts of explicit teaching (Norris& Ortega, 2000). On the other hand, implicit instruction includes no rule presentation or directions to attend to particular forms (Norris & Ortega, 2000). A considerable number of studies (Dekeyser, 1998; Erlam, 2003; Norris & Ortega 2000; Nassaji & Fotos, 2004) have examined the effects of implicit and explicit teaching approaches. All these studies indicate that the participants who received explicit teaching outperformed those who received implicit teaching. These studies demonstrate that explicit teaching is more appropriate and effective in teaching grammar as it facilitates the speedy mastering of the linguistic elements. Moreover, many studies in the literature do not support the role of implicit instruction in second language development. Vanpatten (1996) argues that language learners normally have difficulties in paying attention to form and meaning at the same time.

Explicit and Implicit Knowledge

Traditional language teaching methods underscore the effect of awareness and consciousness by the learners in their achievement of grammar learning. In teacher-oriented classrooms, teachers need to attract the learners' attention to the forms and structures of the language to acquire them. Even though it might be right that implicit teaching facilitates the learners' enactment of activities that are like those outside the classroom but there is a supposition that the explicit teaching helps the learners to attend to the structures and the features that may otherwise go unnoticed when learners attend to the meaning alone (Muranoi, 2000). Nowadays, it is extensively believed that explicit teaching plays a fundamental role in language learning. Ellis (2008) views expli-

cit knowledge as "conscious, declarative, anomalous, and inconsistent in comparison to implicit knowledge. Table 1 represents the substantial distinctions between explicit and implicit language teaching. As Table 1 shows, explicit and implicit knowledge h d noisemaker did dichotomous, that is to say, they are supplementary in the sense that the teacher can integrate both of them intones the classroom. However, there is no complete conclusion as to whether one can be favored over the other. Nonetheless, the total findings of the studies demonstrate an advantage to the use of explicit procedures. The use of explicit procedures in foreign language classrooms appears to be more effective (Ellis, 2008; Spada & Tomita, 2010).

Table 1
Key Characteristics of Implicit and Explicit Knowledge (Ellis, 2008)

Characteristics	Implicit knowledge	Explicit knowledge
Awareness	The learner is intuitively aware of linguistic norms.	The learner is consciously aware of linguistic norms.
Type of knowledge	The learner has procedural knowledge of rules and fragments.	The learner has declarative knowledge of grammatical rules and fragments.
Systematicity	Knowledge is variable but systematic.	Knowledge is often anomalous and inconsistent.
Accessibility	Knowledge is accessible using automatic processing.	Knowledge is accessible only through controlled processing.
Use of L2 knowledge	Knowledge is typically accessed when the learner is performing fluently.	Knowledge is typically accessed when a learner experiences a planning difficulty.
Self-report	Non-verbalizable.	Verbalizable.
Learnability	Potentially only learnable within the critical period.	Learnable at any age.

The relationship between explicit (rule-based) grammatical knowledge and implicit system-based) grammatical knowledge and their contribution to second language knowledge development have gained attraction from the SLA researchers. It is commonly acknowledged that explicit knowledge is acquired through controlled processes that take place in the declarative memory, whereas implicit knowledge is acquired through less conscious or even subconscious processes (Elli, 2006; Nassaji & Foto, 2011). Instruction is implicit if it is directed at enabling learners to infer rules without awareness (Ellis, 2008). Therefore, implicit teaching is represented by the absence of rule presentation or instruction in the hope that learners would process the input to find out if the data could be described with a rule (De Graaf & Housen, 2005; Hulstijn, 2005). This type of instruction suggests learners should be exposed to exemplars in a meaning-focused and comprehensible context in the hope of inferring patterns. Explicit instruction insists upon the value of delete liberate study of a grammar rule (Scott, 1990). DeKeyser (19arguesrgue that explicit instruction occurs when some sort of rule is being thought about during the learning process. That is to say, learners are aware of what is being taught to them and are encouraged to develop metalinguistic knowledge.

Explicit and Implicit Instruction

Considering the function of implicit and explicit knowledge in the second language (L2) as two important constructs, implicit knowledge is at the center of automated language processing. Also, the improvement of these kinds of representations is the final purpose of L2 acquisition (Doughty, 2003). However, there is no consensus about what the function of explicit knowledge is. Many scholars (Hinkel & Fotos, 2002; Johns, 2003; Mitchell, 2000) argue that explicit knowledge is needed for successful performance in the use of language. Ellis (199contendsend that in L2 acquisition explicit knowledge act as a facilitative function because it may increase the speed of the creation of a connection between form and meaning. Ellis (2005) argues that explicit knowledge is very important and when automatic abilities fail, there should an additional collaborative conscious support. There are challenges between the issues of implicit and explicit knowledge.

The interface issue can consider issues such as the relationship between implicit and explicit knowledge, and the possibility of converting these two types of knowledge, while the non-interface position claims that these two knowledge types are stored distinctively in various sections of the brain and need a strict distinct mechanism. Thus, they can't be changed into each other. Ellis (2003) argues that explicit knowledge only enhances the development and shaping of implicit knowledge and this I through noticing. As Ellis points by noting the linguistic features in the input, learners can comprehend the differences between their interlanguage and the target language. However, many researchers (Ellis, 2008; Nassaji & Foto, 2011) contend that explicit instruction of grammar, which refers to raising awareness of the grammatical rules of the language, is necessary for learners' linguistic development. Explicit teaching can help learners to build explicit language knowledge. Explicit language knowledge refers to the learners' conscious knowledge that can interpret language. However, the impact and efficacy of explicit versus implicit instruction in second language development have been a frequent issue of great importance. As stated earlier, many researchers do not reach any consensus about the potential role and effect of explicit versus implicit L2 instruction in second language development.

Based on what was stated above and in line with the purposes of the study, the following research questions were formulated:

Q1. Is there any significant difference between the effects of explicit vs. implicit instruction on developing Iranian EFL learners' grammar ability?

Q2. Is there any significant relationship between the implicit and explicit grammatical knowledge of EFL learners and their general second language proficiency?

Q3. Is there any significant relationship between the implicit and explicit grammatical knowledge of EF Learners and their subcomponents of general second language proficiency?

Q4. Which type of grammatical knowledge can significantly predict the general second language proficiency of EFL learners?

METHOD

Participants

The first group of participants was selected through convenience sampling. Convenience sampling is a non-probability sampling technique that relies on data collection from population learners who are conveniently available to participate in the study. All of the participants were native speakers of Farsi. All the participants in the two groups were doing their B.A. degree in the English language teaching program at Islamic Azad University, Bandar Abbas Branch. They were then in the first year of their study and they were participating in Grammar Course 1. The participants were selected through the administration of the Preliminary English Test (PET) as a proficiency test for a total population of 47 learners and those participants (N=40) whose scores on the test were between one SD above and one SD below the mean were selected. All the participants were within the age range of 18 to 28 years. Although the participants came from intact classes, the researchers administered PET to collect data on the homogeneity of the participants. The participants were randomly divided into two experimental groups, each including 20 participants.

Moreover, the second group of participants in this study were 140 graduate and un graduate students (both males and females),70 males and 70 females, who were studying English as a foreign language at Bandar Abbas branch of Islamic Azad University, the participants were at the age range of 18 to 30. All the participants nearly speak Persian and they study English as part of the curriculum at the Islamic Azad University of Bandar Abbas. The participants selected in this group belonged to different language proficiency levels. They were selected from MA and BA levels to ensure that they have different second language proficiency levels.

Instruments Preliminary English Test (PET)

The preliminary English Test (PET) is an English language examination provided by Cambridge Assessment English. The researcher applied a standard language proficiency (PET) test for determining the students' level of general English and ensuring their homogeneity. It

is made up of three exam papers, which cover all four language skills (Reading, Writing, Listening, and Speaking). It takes approximately 150 minutes (2 hours and 30 minutes) to be completed.

The first part, the reading and writing section, this part takes 90 minutes and has 50% of the total marks: Parts 1 to 5 focus on reading skills and consist of 30 questions. Learners are expected to read texts and understand the main points. In this section, the learners need to read texts and understand the main points. Reading of multiple-choice cloze, matching, and identifying true or false information. Parts 6 to 8 focus on writing skills and consist of 7 questions. Learners are expected to write a story or letter of about 100 words and their spelling can be checked. In this part, questions consist of sentences transformations, communicative message (open cloze,) and continuous writing. The second part, which is listening, includes 4 parts comprising 25 questions. It takes approximately 36 minutes and has 25% of the total marks. Learners are expected to understand a range of spoken materials, in both informal and formal settings, on a range of everyday topics. Recorded materials include announcements interviews and discussions about everyday life.

Timed and Untimed Grammatical Judgment Test (GJT)

The Timed GJT was administered to measure the implicit grammatical knowledge of the participants with 60 test items. The test was developed to assess the students' implicit knowledge of 10 English grammatical structures. It was designed originally following Ellis's (2006). Both the Timed and Untimed Grammatical Judgment Tests had identical 68 items. The targeted features in this study were 10 grammatical structures listed in Table 2.

Table 2
Grammar included in Timed and Untimed GJT

Grammar	Examples of Learners'' Errors
Regular past tense	She completes her assignments yesterday.
Yes/No questions	Did she complete her homework?
Modal Verbs	I must complete my homework.
Unreal condition	If I were there, I will see her.
Since and For	She has worked here for two years.
Possessive	Here is your key.
Plural	I have three questions.
Third person s	She stays in the hotel.
Relative Clause	This is my aunt who works in the bank.
Comparative	My sister is smarter than my friend.

For each of the 10 structures, two grammatical and two ungrammatical sentences were included in the GJTs, resulting in 68 items. The sentences were similar in both Time GJT and Untimed GJT. As different structures were being targeted in this study, the sentences were decontextualized to control for the order of item presentation. The final draft was administered through the computer screen using timed PowerPoint slides. Concerning Timed Grammatical Judgment Test, the participants were required to select the correct sentence from among the two parallel grammatical and ungrammatical sentences within the time limit of 5 seconds for each slide. However, Timed Grammatical Judgment Test consisted of 68 sentences, divided between grammatical and ungrammatical ones. The sentences were presented in written form on slides. Thus, there were four sentences to be judged for each of the 10 grammatical structures. The participants were required to indicate whether each sentence was grammatical or ungrammatical by pressing response buttons within a fixed time limit. The reliability of the test was estimated through the Cronbach's Alpha, which was found to be 0.69. The Untimed Grammatical Judgment Test had the same content as the Timed Grammatical Judgment Test. The sentences were presented in written form on the computer screen. The participants were required to indicate whether each sentence was grammatical or ungrammatical.

Barren TOEFL Test

A Barren TOEFL Test was administered to measure general second language. A Barren Test was administered to measure the second language proficiency of EFL learners. The test was composed of 160 items in three sections: (i) listening comprehension section with 40 test items; (ii) structure section with 40 items; and (iii) reading comprehension section with 40 items. The reliability estimate for the TOEFL was 0.92 using Cronbach's Alpha.

Researcher-made Multiple-Choice Grammar Test

To find out the participants' grammatical knowledge, the researcher developed a 30-item multiple-choice test, focusing on the targeted grammatical features of the study. To determine the content validity of the tests, the researcher computed the KR-21 formula and the reliability was shown as 0.80.

Data Collection Procedure

To collect the data for the first research question, the researcher selected the participants randomly from among a population of 47 EFL learners via PET test score of at least one standard deviation below and above the mean. Then, they were divided into two groups, each including 20 participants, and then they were randomly assigned to two experimental groups. One of the experimental groups (Experimental Group 1) was exposed to explicit grammar instruction, while the second experimental group (Experimental Group 2) benefited from implicit grammar instruction. Moreover, the instructional intervention lasted for 16 sessions, each including 90 minutes. While the experimental group received explicit grammar instruction in the 10 targeted features illustrated in Table 2, the control group received implicit grammar instruction. As it is stated in the literature, implicit language learning takes place without either intentionality or awareness, whereas explicit language learning is necessarily a conscious process and is intentional as well. It is conscious learning where the individual makes and tests hypotheses in a search for structure (Ellis, 1994). As Hulstijn (2002, 206) put it, it is a conscious, deliberative process of concept formation and concept linking. To follow a systematic pattern of instruction aimed at this study during the whole 16 instructional interventions, the researcher pursued explicit instructional guidelines suggested by Ellis and Worthington (1994), as it is illustrated in Table 3.

Table 3

Principles of Explicit Instruction (Ellis & Worthington, 1994)

1	**Focus instruction on critical content**. Teach skills, strategies, vocabulary terms, concepts, and rules that will empower students in the future and match the students' instructional needs.
2	**Sequence skills logically**. Consider several curricular variables, such as teaching easier skills before harder skills, teaching high-frequency skills before skills that are less frequent in usage, ensuring mastery of prerequisites to a skill before teaching the skill itself, and separating skills and strategies that are similar and thus may be confusing to students.
3	**Break down complex skills and strategies into smaller instructional units**. Teach in small steps. Segmenting complex skills into smaller instructional units of new material addresses concerns about cognitive overloading, processing demands, and the capacity of students' working memory. Once mastered, units are synthesized (i.e., practiced as a whole).
4	**Design organized and focused lessons**. Make sure lessons are organized and focused, to make optimal use of instructional time. Organized lessons are on topic, well sequel-sequence with no irrelevant digressions
5	**Begin lessons with a clear statement of the lesson's goals and your expectations**. Tell learners clearly what is to be learned and why it is important. Students achieve better if they understand the instructional goals and outcomes expected, as well as how the information or skills presented will help them.
6	**Review prior skills and knowledge before beginning instruction**. Provide a review of relevant information. Verify that students have the prerequisite skills and knowledge to learn the skill being taught in the lesson. This element also provides an opportunity to link the new skill with other related skills.
7	**Provide step-by-step demonstrations**. Model the skill and clarify the decision-making processes needed to complete a task or procedure by thinking aloud as you perform the skill. Demonstrate the target skill or strategy, to students as a model of proficient performance.
8	**Use clear and concise language**. Use consistent, unambiguous wording and terminology. The complexity of your speech (e.g., vocabulary, sentence structure) should depend on students' receptive vocabulary, to reduce possible confusion.
9	**Provide an adequate range of examples and non-examples**. To establish the boundaries of when and when not to apply a skill, strategy, concept, or rule, provide a wide range of examples and non-examples. A wide range of examples illustrating situations when the skill will be used or applied is necessary so that students do not underuse it. Conversely, presenting a wide range of non-examples reduces the possibility that students will use the skill inappropriately.
10	**Provide guided and supported practice**. To promote initial success and build confidence, regulate the difficulty of practice opportunities during the lesson, and provide students with guidance in skill performance. When students demonstrate success, you can gradually increase task difficulty as you decrease the level of guidance.

However, to employ the implicit instruction for Experimental group 2, the researcher employed the enriched input instruction. Input enhancement is the process of language instruction in which input is made more noticeable to the learners (Sharwood Smith, 1991). Textual enhancement is an implicit form of input enhancement as it attempts to draw learners' attention to form while the focus s remains on meaning (Doughty & Williams, 1998). To implement instruction the Experimental group 2, the researcher highlighted grammatical features in this study through boldfacing. Afterward, the researcher-made test was administered as the posttest to collect the data on the effect of instruction. The data of the study were analyzed, using ANCOVA data analysis to indicate group outgroup differences. Moreover, this study had a major focus on the distinct accessibility of implicit versus explicit L2 grammatical knowledge of EFL learners to their general second language proficiency. Hence, the researcher employed certain test batteries including Timed Grammatical Judgment Test, Untimed Grammatical Judgment Test, and TOEFL language proficiency test to gather data on the participants' implicit and explicit grammatical knowledge and their general language proficiency.

RESULTS

First, PET was administered to 47 participants to select homogeneous participants. All items in the PET test went through an item analysis procedure and there were no malfunctioning items. Following the piloting of the test, the mean and standard deviation of the raw scores and the reliability were here calculated. Table 4 shows the descriptive statistics of the PET in the pilot phase.

Table 4
Descriptive Statistics of PET Piloting

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Ratio	Kurtosis		Ratio
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error		Statistic	Std. Error	
Piloting of PET	25	34.00	67.00	52.9600	10.56519	-.213	.464	-.46	-1.289	.902	-1.43
Valid N (listwise)	25										

As can be seen in the 4, the mean and standard deviation equaled 52.96 and 10.56 respectively. In addition, the ratio of skewness/std error of skewness fell between the allowable range of -1.96 and +1.96, showing the normality of the scores. As can be seen in the table, the mean and standard deviation equaled 52.96 and 10.56 respectively. In addition, the ratio of skewness/std error of skewness fell between the allowable range of -1.96 and +1.96, showing the normality of the scores. As can be seen from Table 4.1, the mean and the standard deviation turned out to be 48.55 and 7.84 respectively. Consequently, among the 47 original students, 40 students whose PET scores fell within the range of 40 and 57 were selected as the homogenous students. Then, the researcher divided the participants into two experimental groups, each including 20 participants. Table 5 shows the descriptive statistics of PET scores for the two groups.

Table 5
Descriptive Statistics of the PET Scores for the Two Groups

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Ratio	Kurtosis		Ratio
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error		Statistic	Std. Error	
Ex 1	20	40.00	57.00	50.6500	5.58452	-.746	.512	-1.46	-.743	.992	-.75
Ex 2	20	40.00	57.00	50.6500	5.51815	-.741	.512	-1.45	-.746	.992	-.75
Valid N (listwise)	20										

As it is illustrated in Table 6, the two groups had the same mean, 50.65 first explicit group (Experimental Group 1) and the implicit group (Experimental Group 2). The normality of the distributions was proved as both groups' skewness ratios fell within the range of +1.96 and -1.96 (-1.46 and -1.45, respectively to ensure the homogeneity of the two experimental groups prior to treatment, an independent samples t-test was conducted on the PET s res of the two groups. Table 6 below shows the details.

Table 6
Independent Samples t-Test on PET Scores between the Scores for the Two Groups

		Levene's Test for Equality of Variances		***t*-test for Equality of means**				
		F	Sig	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
PET Homogeneity	Equal variances assumed	.000	1.000	.000	38	1.000	.00000	1.75552
	Equal variances not assumed			.000	37.995	1.000	.00000	1.75552

Therefore, as it is illustrated in Table 6, the data enjoyed the assumption of equal variance (F= .0005, p=1>.05). The results (t=.0005, df= 38, p= 1>.05) indicated no significant difference between the two experimental groups in terms of their general language proficiency before the instructional intervention.

As was stated earlier, in the first phase, this study is an attempt to see which types of the explicit or implicit intervention program is more effective in developing grammar skill among the participants. To this aim, ANCOVA statistical analysis was computed to see where the difference lay.

Table 7
Descriptive Statistics of ANCOVA Data Analysis

Tests of Between-Subjects Effects					
Dependent Variable: Post_test					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	913.201[a]	2	456.600	68.795	.000
Intercept	213.612	1	213.612	32.184	.000
Group	913.056	1	913.056	137.568	.000
Pre_test	1.176	1	1.176	.177	.676
Error	245.574	37	6.637		
Total	20651.000	40			
Corrected Total	1158.775	39			

a. R Squared = .788 (Adjusted R Squared = .777)

As it can be seen, the results of the ANCOVA data analysis revealed that the explicit group significantly outperformed the implicit group before checking the exact locations of the differences, the mean scores were computed after deleting the effects of the covariate. As Table 8 shows, after detaching the effect of the variate, the explicit group indicia ted higher mean score (M=26.8 5, SD=0.57) than the implicit group (M= 17.29, SD=0.57).

Table 8
Results of ANCOVA Data Statistics

Estimates				
Dependent Variable: Post-test				
Group	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Explicit	26.854	.576	25.687	28.021
Implicit	17.296	.576	16.129	18.463

Then, the Tukey test as a robust post-hoc test was employed to provide the pair group comparisons to pinpoint the locations of the exact differences between the two experimental groups and the results were illustrated in Table 9.

Table 9
Results of Tukey Test for Post-hoc Analysis

Pairwise Comparisons						
Dependent Variable: Post-test						
(I) Group		Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference	
					Lower Bound	Upper Bound
Explicit	Implicit	9.558*	.815	.000	7.907	11.209
Implicit	Explicit	-9.558*	.815	.000	-11.209	-7.907
Based on estimated marginal means						

** The mean difference is significant at the .05 level.*

As the pairwise comparison illustrated in Table 9, the experimental group outperformed the implicit group (Mean Difference=9.55, p<.05). Furthermore, to collect the data on the other research questions which are germane to the relationship between the participant's explicit and implicit grammatical knowledge and their language proficiency, the researcher administered Barron's language proficiency TOEFL test, Timed Grammatical Judgment Test, and Untimed Grammatical Judgment Test among the participants. Table 10 illustrates the descriptive statistics of the distribution's values of the Skewness and Kurtosis which were indicated to be within the normal range of +/- 1.5.

Table 10
Descriptive Statistics for Implicit vs. Explicit Grammatical Knowledge & TOEFL Score

Test	**Mean**	**SD**	**Skewness**	**Kurtosis**	**Minimum**	**Maximum**
Implicit knowledge	12.17	3.171	-.550	-.370	5	20
Explicit knowledge	13.49	3.000	-.350	-.410	4	19
TOEFL	27.00	7.617	.650	-0.059	9	42

Moreover, as was stated earlier, the relationship between the participants' implicit and explicit grammatical knowledge was measured by the Timed and Untimed Grammatical Judgment Test, and their general L2 proficiency was measured by the Barron's TOEFL test and then the relationship among them was computed, applying Pearson product-moment coefficient.

Table 11
Correlational Analysis for Explicit vs. Implicit Knowledge & TOEFL Test Score

Tests	**Correlation**	**Sig. (2-tailed)**	**N**
Explicit knowledge & general l2 proficiency	.223**	.000	140
Implicit knowledge & general l2 proficiency	.040	.636	140

*** Correlation is significant at the 0.01 level (2-tailed)*

As Table 11 illustrates, there's no relationship between the scores of the EFL learner's implicit knowledge tests and their General second language proficiency as r=04, p>0.05. In contrast, the findings indicated that there is a strong relationship between the scores of the EFL Learner's explicit knowledge test scores and their General L2 proficiency scores, r =0.223, p<0.005. Furthermore, to determine the relationship between the participants' implicit and explicit grammatical knowledge and the subcomponents of the TOEFL test, the Pearson product-moment coefficient was computed and the results were illustrated in Table 12.

Table 12
Correlations among Implicit and Explicit Grammar Knowledge and Sub-skills of TOEFL

TOEFL Sub-components	Explicit test	sig.	Implicit test	sig.	N
Listening Comprehension	0.224**	.000	-.006	.143	140
Structure	.244**	.000	-.0686	.420	140
Reading Comprehension	.257**	.000	-.003	.528	140

Table 12 illustrates the correlations among explicit and implicit grammar knowledge and subcomponents of TOEFL tests of the participants. As Table 12 depicts, there is no correlation among the participant's scores on the implicit grammatical knowledge test and their scores on the sub-components of the participants' general TOEFL proficiency test as listening comprehension ,r=-0.006,p>0.05, structure, r=-068 and reading r=-.003,p>005 ,albeit the results of the correlation between explicit Knowledge Test and sub-components of the TOEFL test indicate that there's a strong relationship between the explicit Knowledge Test and sub-components of the TOEFL test indicate that there is a significant relationship between the explicit grammatical knowledge and he listening comprehension section of the TOEFL test (r=0.22,p<0.0005) also the same results were observed between the explicit grammatical knowledge test and the structure and reading sections of the TOEFL test as correlation between structure and explicit knowledge is r=0.244 ,p<0.0005 and the value of correlation between reading section and explicit grammar knowledge is r=0.257,p<0.0005.

Table 13
The Results of Multiple Regression Analysis

Model	R	R Square	Adjusted R Square	Std. The error in the Estimate
1	.224[a]	.050	.036	7.477

Predictors: (Constant), Explicit Knowledge, Implicit Knowledge
Dependent Variable: General second language proficiency

Moreover, to determine which type of implicit or explicit knowledge can significantly predict the general L2 proficiency of the EFL participants, the researchers computed standard multiple regression to evaluate the ability of the explicit and implicit grammatical knowledge to predict the participants' language proficiency scores as the dependent variable and the results were reported in Table 14.

Table 14
ANOVA Results of Multiple Regression Analysis

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	405.005	2	202.502	3.622	.000
	Residual	7658.995	137	55.905		
	Total	8064.000	139			

a. Dependent Variable: TOEFL
b. Predictors: (Constant), Implicit, Explicit

The ANOVA results reported in Table 14 show that the analysis reached the statistical significance (Sig=0.000, p<0.0005) and this can explain the significant part of the variation in the dependent variable.

Table 15
The Results of Multiple Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	21.015	3.098		6.784	.000					
	Explicit	-.064	.221	.524	-.292	.771	.040	-.025	-.024	.919	1.089
	Implicit	.552	.209	.131	2.648	.009	.223	.221	.220	.919	1.089

Moreover, Table 15 illustrates which one of the explicit or implicit grammatical knowledge (independent variable) helped more significantly to the participants' general second language proficiency (dependent variable). As Table 15 shows, the beta value for explicit grammatical knowledge (0.524) was significantly greater than the beta value for implicit grammatical knowledge (0.131). To put it more simply, explicit grammatical knowledge of the participants had a greater contribution to the participants' general language proficiency which is viewed as the dependent variable. Whereas the participants' implicit grammatical knowledge did not predict their implicit grammatical knowledge, the findings shown in Table 15 were not similar for explicit grammatical knowledge. That is to say, increasing the participants' explicit grammatical knowledge scores by one standard deviation would result in increasing their second language proficiency by 0.524 units.

DISCUSSION

Grammar teaching is still a controversial issue in the field of second and foreign language instruction. It has been of great interest to researchers and teachers to find out how to teach grammar. The findings of this study are consistent with many studies reported in second language acquisition research as no study has shown that implicit learning worked better than explicit learning (Ellis, 1993; Dekeyser, 2003; Doughty, 1991; Gass et al., 2003). Robinson (1996) argues that learners exposed to explicit instruction outperformed the implicit learners on structures such as subject-verb inversion. Correspondingly, Gass et al. (2003) state that learners' focused condition which involved explicit attention to form and meaning is more effective than the unfocused condition in the case of lexis than it did in the case of morphology or syntax.

Moreover, an extensive meta-analysis was conducted by Norris and Ortega (2000) and the results were in favor of explicit instruction in a way that L2 instruction focuses on form results in a substantial gain in the target structures, and the gains are sustained over time. The findings of this study indicated strong empirical evidence for the positive effects of explicit grammar instruction, focusing on learners' attention to linguistic forms. This evidence comes from a large number of laboratory and classroom-based studies as well as extensive reviews of studies on the effects of form-focused instruction over the past 30 years (Ellis, 1994, 2001; Larsen-Freeman & Long, 1991; Long, 1983, 1991). In line with the results of this study, Long (1983) states that explicit instruction contributes importantly to language learning. Accordingly, Ellis (1994, 2001), N. Ellis (1995), and Larsen-Freeman and Long (1991) argue that while explicit language learning might not have major effects on the sequence of acquisition, it has significant effects on the rate of acquisition and the attainment of accuracy. Moreover, the positive effect of explicit grammar instruction is well supported by Anderson's (1988) ACT model and skill acquisition theory paradigm (Dekeyser, 2000). According to Dekeyser (2007), the basic claim of skill acquisition theory is that the learning of a wide variety of skills shows a remarkable similarity in development from the initial representation of knowledge through initial changes in behavior to eventual fluent, spontaneous, largely effortless, and highly skilled behavior and that this set of phenomena can be accounted by a set of basic principles common to the acquisition of all skills.

Therefore, skill acquisition is a form of learning where skilled behaviors can become routinized and even automatic under some conditions. As Vanpatten & Benati (2010) state, using explicit learning or processes help learners obtain rules explicitly and have some type of conscious awareness of those rules. The automatization of procedural knowledge causes learners to begin to procedural the explicit knowledge. Furthermore, the results of this study are congruent with the paradigm of the Anderson ACT (Adaptive Control of Thought) model. The adaptive Control of Thought (ACT) model, developed by John Anderson is the most well-known model of skill-based theories. Anderson (1982) proposed a framework for skill acquisition including the two major stages in the development of a cognitive skill (declarative and procedural stages). Under the tenets of the ACT model, language development involves the use of declarative knowledge followed by procedural knowledge through explicit practice (Dekeyser, 2019). The findings of this study provided empirical support for the proponents of skill acquisition theory as second language grammar acquisition entails a gradual transition from effortful use of the grammar to more automatic use of the target language through explicit instruction. Anderson's Adaptive Control of Thought (ACT) model posits that language skills start from a stage where rules are learned explicitly; then, after being exposed to too much practice, tasks can be completed rapidly and efficiently with a smaller error rate even without thinking about the components and subcomponents involved in executing the task (Anderson, 2005; Dekeyser, 2007; Ullman, 2001).

The findings provided theoretical support for the role of explicit instruction in L2 grammar development by drawing on skill acquisition theory and have also drawn on empirical classroom research to show evidence of its effects. Beyond this, this study resorts to DeKeyser's (2010) argument that explicit instruction contributes to L2 development in ways that implicit instruction cannot. Teachers, teacher educators, and researchers seem to largely agree on the importance of explicit grammar instruction and consequently have attempted to develop frameworks and proposals to promote a focus on grammar in L2 communicative classrooms. As it was stated earlier, many studies (Dekeyser, 1995; Ellis, 1993; Robinson, 1999) indicate that explicit instruction is useful for second language development.

Accordingly, the results indicated that there was no relationship between the EFL participants' implicit grammatical knowledge and their second language proficiency. In the same vein, there was no significant correlation between the participant's implicit grammatical knowledge and the sub-skills of their second language proficiency. In contrast, the participants' explicit second language grammatical knowledge correlated significantly with their second language proficiency. The findings in this study are in line with Elis (2009). Moreover, the results indicated that participants' explicit grammatical knowledge correlated significantly with the second language learners' proficiency subskills of listening, structure, and reading comprehension. Moreover, the results revealed that the participants' explicit grammatical knowledge was a better predictor of the participants' second language proficiency. That's to say knowledge of grammar is a powerful indicator of learners' second language learner proficiency (Ellis, 2006). However, the findings were not in favor of the learners' implicit knowledge as the participant's implicit grammatical knowledge did not contribute significantly to their performance on a language proficiency test.

CONCLUSION

A quick review of language teaching reveals the fact that grammar is a major concern to EFL instructors, students, and scholars, and there are debatable issues about how to teach grammar effectively. Explicit language instruction caters to intentional language learning in learners. That is, it makes it clear to the learner what is the instructional target and provides activities to assist them in learning it. Explicit instruction is usually discussed in grammar where it refers to activities that require some sort of rule being thought about

during the learning process (DeKeyser, 1995; Ellis, 2008). Many studies (De Graaf & Housen, 2009; Ellis, 1997; Foto, 1993; Tomlinson, 201) are consistent with the results of this study as they all argue that explicit instruction is essential for fostering grammatical ability among the learners since explicit instruction involves structured practice. A structured practice can be defined as an intentional and persistent activity involving the production of a specific target feature with awareness and mastering the use of the feature.

Nevertheless, as it was stated earlier, implicit versus explicit linguistic knowledge are two distinct processes for learning a second language. These two constructs have drawn the attention of many researchers over the past decade or so. The central concern in implicit learning is that it lacks consciousness or awareness of the structure being learned (DeKeyser, 2003; Ellis, 2008). The findings of this study are supported by literature in second language acquisition research. Lightbown (2000) argues that when practice is defined as opportunities for meaningful language use and thoughtful, effortful practice of difficult language features, then the role of practice is beneficial and even essential. Effective and explicit instruction can be viewed as providing a series of instructional supports or scaffolds—first through the logical selection and sequencing of content, and then by breaking down that content into manageable instructional units based on students' cognitive capabilities. Instructional delivery is characterized by clear descriptions and demonstrations of skill, followed by supported practice and timely feedback. Moreover, a strong interface position (Dekeyser, 1997) is another support for the findings of this study as it claims that explicit knowledge can transform into implicit knowledge through practice. That is, learners can first learn a rule as a declarative fact and, then, by dint of practicing the use of this rule in controlled activities, construct an implicit representation, and this necessitates explicit instruction. The findings of this study are congruent with many studies available in the literature (Dekeyser, 1997; Elder & Ellis, 2009; Han & Ellis, 1998; Loewen, 2005) as these studies also carried out research in investigating the relationship between the measures of implicit and explicit grammatical knowledge and different measures of general language proficiency currently used in different settings. Han and Ellis argue that learners' scores on implicit and explicit grammatical knowledge correlated highly with their scores on the Secondary Level English Proficiency Test and also the TOEFL test. The findings of this study reveal the fact that EFL learners' performance on the explicit grammatical knowledge test had a better performance than the TOEFL subcomponents of listening comprehension, structure, and reading comprehension. That is to say, the knowledge which is more accessible to EFL learners in their L2 use and processing is most explicit. However, as Ellis (2006, 2008) points out, the grammatical ability is an important component of any model of L2 proficiency, and understanding the implicit/explicit distinction might be a significant step for understanding the nature and the way we measure proficiency among the EFL learners.

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