

Exploring EFL Learners' Grammar Achievement and Metalinguistic Knowledge: A Correlational Study

Safia ADJEROUD*

Mohammed Seddik Ben Yahia University (Algeria), safianeghiz@gmail.com

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Abstract:

The present exploratory study mainly addresses the relationship between Algerian English as a Foreign Language learners' grammar achievement and their metalinguistic knowledge. Additionally, it attempts to provide estimates of the participants' metalinguistic knowledge and their achievement in grammar. A group of 57 out of a cohort of 214 sophomores majoring in English at Mohammed Seddik Ben Yahia University participated in the study conducted using two different tests. Data collection was approached using a grammar test that was implemented to determine the participants' achievement in grammar. Moreover, a metalinguistic knowledge test adopted from Elder (2009) was administered to the participants to record their level of metalinguistic knowledge. The data were analysed using IBM SPSS (Statistical Package for the Social Sciences) Statistics 21 software (2012). The study findings revealed the participants' low achievement in grammar but a relatively high level of their metalinguistic knowledge. The results reported the existence of a moderate positive correlation between the two variables ($r=0,432$). Ultimately, the study underscores the importance of rethinking the nature of grammar instruction, by mediating the explicit and implicit knowledge dimensions and revisiting the English grammar curriculum in Algerian higher education, through incorporating metalinguistic awareness-raising activities and metalinguistic feedback, which are thought conducive to improving learners' grammar abilities.

Keywords: Grammar Achievement, Metalinguistic Knowledge, Grammar Achievement Test, Metalinguistic Knowledge Test, Correlation.

* Safia ADJEROUD

1. Introduction

Ample evidence from educational research has loomed contributive to highlighting the importance of grammar in learning a language and has come to be of interest to classroom practitioners and researchers. Such a perspective has eventually nurtured contentious debate over how to better approach instructional grammar methodologies and audit classroom practices. In second/foreign language grammar learning, however, the challenge is much greater. In fact, the study of grammar is a highly complicated undertaking encompassing much more than the study of the conventional linguistic rules but adhering to the intricate linguistic mechanisms governing the language system and the set of cognitive and metacognitive processes necessary for internalizing, processing, and manipulating such knowledge for ulterior recall and use. Hence, awareness and understanding of the different language structures is by far a prerequisite to promoting learners' grammar achievement.

Trends in second and foreign language research on grammar and second language acquisition have come to be manifest in conjunction with research in cognitive psychology. There has been a growing interest in the explicit/implicit knowledge dimension, which suggests the complementarity of both knowledge types in fostering the learning of grammatical items (Ellis, 2005; Ellis, 2009). Engaging with the explicit grammar tradition implies introducing the different grammar rules and reflecting upon instances of language use. Such analytical accounts of grammar learning can but plead in favour of improving learners' achievement. While many studies (Spada, 1997; Norris & Ortega, 2000; Roehr, 2004) are suggestive of the importance of the nature of instruction to learners' language ability, further investigations on the way both explicit knowledge and instruction relate to learners' grammar achievement are recommended. This questions the quality of grammar instruction and the dimension against which learners' metalinguistic knowledge is framed and made operational.

Despite the impressive value both concepts may suggest, research on how learners' metalinguistic knowledge presumably relates to their grammar abilities remains desirable, especially in contexts where diverse languages are on the play. In the Algerian context, learners of English as a foreign language (EFL) are still experiencing difficulty acquiring the target language, even at higher education level. This implies the need to interrogate learners' knowledge about language in general and grammar in particular. Hence, exploring the way these interplay has eventually become a postulate.

The present correlational study comes as an attempt to explore the relationship of second-year undergraduate Algerian EFL learners' achievement in grammar and level of metalinguistic knowledge, by answering the following research questions:

- What is the second-year undergraduate EFL students' level of achievement in grammar?
- What is the students' level of metalinguistic knowledge?
- What is the relationship between second-year undergraduate EFL students' grammar achievement and their metalinguistic knowledge?

2. Literature Review

2.1. Second Language Acquisition Theories and Foreign Language Grammar Learning

From the outset, second language acquisition has primarily been concerned with learning a language in natural settings. Second language acquisition theories and principles are essentially devised to comprehend second language acquisition processes. Such principles are

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directly applicable to foreign language learning contexts (Ellis, 2008). For instance, Vygotsky's Sociocultural theory, stressing the importance of social interaction, collaborative learning, and communication in language acquisition (1978), underlines the value of group work and interactive activities widely implemented in foreign language classrooms. Teaching and learning grammar within such a model may imply scaffolding learners to help them understand and utilize grammatical structures before independent target use. Moreover, Krashen's five- hypotheses model (1985) suggests that grammar learning should be a natural process through meaningful input rather than explicit instruction. In foreign language learning contexts, this might be fulfilled through structured exposure to the target language via authentic materials, classroom interactions, and immersive experiences. Krashen's model has come to be challenged by others such as Swain's Output Hypothesis (1985) and Long's Interaction Hypothesis (1991), accounting for language use and production in the learning process (Swain, 1985). In the context of foreign language grammar learning, Swain's model provides learners with opportunities for language production essential for them to internalise linguistic forms and structures and develop their foreign language grammar abilities. Swain (1985) suggests that language production is supportive for learners in noticing their knowledge gaps and refining their grammatical knowledge through practice and feedback.

The applicability of these second language acquisition theories to foreign language learning highlights the fact that the processes of acquiring a second language and learning a foreign language have some shared cognitive and social mechanisms. The integration of such theoretical attributes is by far thought conducive to more effective use of instructional strategies compatible with the natural acquisition processes described by second language acquisition research. Hence, and as claimed by Richards and Rodgers (2001), a shift from such dated naturalistic perspectives to much more structured approaches highlighting the need for explicit instruction, for grammar-translation methods, and for the use of teaching materials to aid language acquisition has arisen (Richards & Rodgers, 2001). This shift in focus can but point to the constraints of classroom contexts, where exposure to the target language is often restricted. Thus, techniques such as intentional practice, memorization, and direct grammar instruction have gained prominence, reflecting a more systematic approach to language learning aimed at attaining measurable, time-bound outcomes (Lightbown & Spada, 2006).

2.2. Grammar Instruction in the Second/Foreign Language Classroom

In its simplest view, grammar can relate to the way words have been arranged to make accurate sentences (Ur, 1991). It actually goes beyond that to account for the meanings grammatical forms may convey (Thornbury, 1999). A multidimensional attribute of grammar was advanced by Larsen-Freeman (2009), to cover implicit but also explicit forms of grammar, universal grammar, and language-specific grammar, how language should be utilized and how it actually is used, theoretically exclusive grammars and other eclectic forms. Such a diversity of perspectives in approaching grammar implies questioning the very methodology to be adopted in the foreign language classroom in a way to make grammar instruction conducive to developing learners' grammar abilities.

Despite the existing dissent on the grammar instruction methodology, researchers, educationalists, and field practitioners alike have come to reach consensus about the pivotal role of grammar in developing learners' abilities in the foreign language. In the view of Ellis (2006), a somewhat traditional perspective regards grammar teaching as the

act of presenting and practising discrete grammatical forms. Alternatively, grammar teaching can relate to engaging learners in the discovery of grammar rules for themselves, or through simple exposure to input contrived to provide different exemplars of the target structure. Grammar teaching can also take the form of corrective feedback on learners' arising errors while performing in communicative tasks (Ellis, 2006). A broader view of grammar instruction encompasses any instruction-oriented perspective drawing learners' attention to specific grammatical forms; rather, it paves the way for them to comprehend such forms in a metalinguistic way and/or process them in comprehending and/or producing language to install internalisation of the forms (Ellis, 2006). Such a delineation overtly points to the centrality of explicit grammar teaching in developing learners' knowledge about language and learners' grammar abilities.

2.2.1. Explicit and Implicit Knowledge and Grammar Instruction

The implicit/explicit dichotomy has always been viewed important for understanding the mechanisms of second/foreign language learning/acquisition. According to Ellis (2009), implicit and explicit forms of knowledge and learning in second language acquisition have their roots in cognitive psychology. Han and Ellis (1998) define explicit knowledge as knowledge about a second language, and consisting of the two constructs, analysed knowledge and metalanguage. By the former, they refer to knowledge about second language forms and structures learners are aware of although not necessarily fully conscious, while they hold complete awareness about the latter (Han & Ellis, 1998). Similarly, Ellis (1997) identified implicit knowledge as knowledge of language and explicit knowledge as knowledge about language. Explicit knowledge is not only useful for helping learners comprehend language by establishing connections between meaning and form, but it also provides an additional function by serving as a feedback stimulus for the learning process (Jones, 1997). Explicit knowledge has further been qualified as being conscious, declarative, verbalisable, and is generally accessible only through controlled processing; implicit knowledge, however, is intuitive, procedural, accessible via automated processing, and only obvious in learners' verbal performance (Ellis, 2009).

Bialystok (1990) explained that implicit knowledge, on the other hand, is manifested in naturally occurring language behavior which is unanalysed because of some unawareness (as cited in Han & Ellis, 1998, p. 5). Reber (1989) claimed that implicit knowledge is abstract and structured (as cited in Han & Ellis, 1998, p. 5). Overall, Han and Ellis (1998) asserted that both types of knowledge according to both accessibility and consciousness. Given their interconnection, implicit/explicit knowledge and implicit/explicit learning should be differentiated in that the former dichotomy relates to the final product while the latter has rather a process connotation, pointing to how L2 knowledge is internalised (Ellis, 1997). According to Ellis (2009), though evident in behavior, implicit learning happens with no intentionality or any awareness. Explicit learning, however, is mainly an intentional conscious process in which learners can verbalise what they have learned.

In the view of Ellis (2009), the term 'instruction' suggests attempting to influence interlanguage development. Traditional language instruction was to a large extent explicit (Ellis, 2010). Explicit teaching of grammar has always been associated with a form-focused approach to language teaching (Andrews, 1999) and happens when the grammar rules or patterns are directly presented to students, who are in turn guided to induce them, themselves (Larsen-Freeman, 2009). Ellis (2008) reported DeKeyser's (1995) definition of explicit form-focused instruction, explaining that it involves an example of the rule thought about while learning a language (Ellis, 2008). As such, learners are to raise metalinguistic awareness of

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the rule, deductively, by giving them the rule, or inductively, by asking them to work out a rule for themselves from a collection illustrating the rule (Ellis, 2008; Ellis, 2010). Implicit instruction, however, aims to help learners deduce rules with no awareness of what has been learnt. (Ellis, 2008; Ellis, 2010). The crucial distinction is whether the instruction 'directs' or 'attracts' attention to form (Housen and Pierrard, 2006; as cited in Ellis, 2010, p. 4). Ellis (2010) also explained that in addition to directing learners' attention to grammatical forms, explicit instruction also helps them develop conscious representations of such forms in their minds and know about what they are supposed to be learning. Implicit instruction, he added, aims at attracting learners' attention to instances of linguistic forms happening in communicative input with no intention to raise consciousness or comprehend the rules describing such forms (Ellis, 2010)

According to Ellis (2008), by referring to the deductive/inductive and proactive/reactive dimensions, explicit instruction is manifested in four instruction types: the deductive explicit, the inductive explicit, the proactive explicit, and the reactive explicit forms. Explicit instruction is said to be deductive as it provides learners with explicit information about grammatical forms. Inductive explicit teaching gives learners the needed data and guidance to derive their own understanding of different grammatical forms. Explicit instruction is proactive and anticipatory, involving planned interventions designed to prevent error occurrence, and is reactive as it involves explicit reaction to learner-made errors (Ellis, 2010). Thus, the deductive/inductive dimension points to the procedure of rule formation (from general to specific or vice versa) while reactive/proactive dimension rather relates to the time of intervention, whether before or after errors are made.

Accordingly, proactive/deductive explicit instruction is carried out using metalinguistic explanations consisting of information about a particular linguistic property supported by examples given by the teacher orally or written in a book. Proactive/inductive explicit instruction involves consciousness-raising activities or practice exercises (Ellis, 2008; Ellis, 2010). Through consciousness-raising tasks, learners are assisted to notice and understand certain grammatical features with the aim of reaching explicit knowledge (Ellis, 2002). In practice activities, learners are either asked or indirectly supposed to extract metalinguistic consciousness of the grammatical feature, inviting rather intentional learning (Ellis, 2008). Reactive/deductive explicit instruction makes use of explicit correction and metalinguistic feedback, illustrated in making comments, giving information, or asking questions related to the student's syntactically correct utterances, with no explicitly-made correction (Lyster and Ranta, 1997, as cited in Ellis, 2008, p. 442). In reactive/inductive explicit instruction, learners receive corrective feedback, repeating the incorrect spoken form with signaling the error location using emphatic stress, or reformulation of learners' erroneous utterance with the correct form intonationally highlighted (Ellis, 2008).

2.3. Metalanguage, Metalinguistic Awareness, and Metalinguistic Knowledge

2.3.1. Basic Definitions

The introduction of the neologism 'metalanguage' was made by Alfred Tarski, between 1933 and 1935 (Jackobson, 1990, as cited in Berry, 2005, p. 3). In actual fact, metalanguage, or what Larsen-Freeman (2009) called grammatical terminology, has come to be approached from different perspectives. Canals (2022, p. 3) defined it as the language used to talk about language or explain the rules of the language. Berry (2005, p. 8) reported the possible

interpretations metalanguage can have but argued in favour of an alternative applied approach to metalanguage. Within such a perspective, metalanguage is thought to be going beyond being just a specialized body of lexis to apply to all language-related aspects used to talk about language, to features of grammar and discourse as well (Berry, 2005).

In an attempt to give fully-fledged accounts of metalinguistic knowledge and metalinguistic awareness as two different concepts, many attributes are noteworthy. The term *Metalinguistics* has come to be utilized in the 1950's and 1960's to point out to metalanguage, a language of linguistic terminology, such as syntax, semantics, phonemes, and common linguistic concepts like words, sentences, and letters (Gombert, 1997). Metalinguistics, being part of metacognition, relates to both the linguistic and the cognitive activities bearing on language (Gombert, 1993).

At first glance, the two concepts seem to be close in interpretation; still, a clear distinction between 'awareness' and 'knowledge' should be made. Simply put, metalinguistic awareness relates to how language, in general, is used and organized (Dillon, 2009, p. 186). In the view of Pratt and Grieve (1984, p. 2), metalinguistic awareness may equate being able to think about the language nature and functions. Similarly, it represents an individual's attentional focus on language as an object in and of itself, to think about language, and to evaluate it (Thomas, 1992). Likewise, Moore (2021) explained that metalinguistic awareness is concerned with the ability to organise knowledge about language and utilise it to monitor language as language, and that such a construct necessitates attention to and monitoring of language as language. One of the most influential models of metalinguistic awareness is Gombert (1992) model, in which he suggested two levels of cognitive control of linguistic knowledge: epilinguistic (Linguistic organizations in memory control language processing automatically) and metalinguistic (the individual's intentional control over linguistic decision making) (Myhill et al., 2012). Accordingly, such claims directly point to the fact that metalinguistic awareness involves three meta-cognitive processes: attention, monitoring, and control. Furthermore, Myhill and Watson (2013) concluded that prior to metalinguistic knowledge, language users acquire implicit and epilinguistic grammatical knowledge through speech and interaction. Examples of this knowledge include word order and past tense construction (Myhill & Watson, 2013).

In the same regard, metalinguistic knowledge exists as a broad domain central to which is a three-part category relating to knowledge about the nature of linguistic information: metaphonological (phonological components), metasemantic (the connexions between signifier and signified), and metasyntactic (knowledge of syntax) (Gombert, 1993). In addition, Hu (2002) maintained that metalinguistic knowledge is the explicit and verbalisable knowledge about second language grammar. It is the explicit representation of abstract linguistic structure features that become approachable through knowledge of a certain language (Bialystok, 2001). Hence, metalinguistic knowledge is simply the explicit knowledge about language (Alderson et al., 1997; Roehr, 2007; Roehr, 2008; Elder, 2009). It is that knowledge area in relation to the language attributes and potentially encloses a set of language-related features (morphosyntax, lexis, semantics and pragmatics at the level of discourse) (Elder, 2009, p. 113). Relatedly, knowledge about metalanguage calls for learners' potential in correcting, describing, and explaining errors in a second language (Roehr, 2007), namely, metalinguistic awareness.

Explicit knowledge about the language relates to the facts that speakers of such a language have come to learn. In case of difficulties utilizing the L2, learners can often access metalinguistic knowledge through controlled processing. One other feature of metalinguistic

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knowledge is that it is held consciously, is learnable and verbalisable (Ellis, 2006). More importantly, it is analytical in that it includes specific declarative language-related facts that of which an individual is aware, is analysed, and necessitates deliberate intentional focus, which leads learners to awareness. However, metalinguistic knowledge may not readily be accessible in language use settings (Elder, 2009). Such attributes clearly highlight the difference between metalinguistic knowledge and metalinguistic awareness.

2.3.2. Academic Achievement and Metalinguistic Knowledge

Second/foreign language learning is predominantly a cognitive process interrogating learners' metalinguistic knowledge, which in turn shapes their abilities to manipulate language. Research on learners' achievement in grammar and its relationship to metalinguistic knowledge has had different perspectives and may considerably be affected by the different types of instructional approaches, by feedback type, by language awareness, and even by learners' differences, to mention but some. In actual fact, numerous studies have been reported in the literature.

In 1997, Alderson et al. conducted a study on the different metalinguistic knowledge levels of 509 freshmen undergraduate learners studying French and the relation between such a knowledge and their proficiency and aptitude in learning the language. The findings of the study evoked some considerable variance in the levels of metalinguistic knowledge but a weak relationship between the latter and language proficiency. Relatedly, no particular findings of such a study could imply the use of metalinguistic knowledge instruction to improve linguistic proficiency (Alderson et al., 1997).

Spada's study (1997), which aimed at investigating the effectiveness of the isolated and integrated types of form-focused instruction in promoting grammatical accuracy, found both instructional practices beneficial but integrated form-focused instruction to a larger extent. In a comprehensive meta-analysis study aiming at summarizing results from experimental and quasi-experimental studies on the role of L2 instruction published between 1980 and 1998, Norris and Ortheaga (2000) found that explicit instruction is more significantly and durably conducive to developing learners' linguistic accuracy and proficiency. Factors such as instruction type, learners' age, learners' proficiency level were analysed in the study, and the findings gave positive accounts on the effectiveness of explicit teaching in language learning.

On a similar vein, Roehr (2004) conducted a study exploring the type of instructional methods, and particularly the role of explicit knowledge in learning a second language, with focus on proficiency, pedagogical grammar and learning strategies. The findings revealed that metalinguistic ability and L2 proficiency showed moderate correlations, which contrasted with learners' positive perceptions of pedagogical grammar; similarly, when completing a task, effective uses of instructional grammar contrasted with misuses during task performances (Roehr, 2004).

In a similar study, Hu (2011) investigated how second language learners acquired metalinguistic knowledge after being largely exposed to explicit teaching of grammar, their facility with metalanguage, and the interplay between metalinguistic and metalingual knowledge. The results yielded that the participants gained a great deal of explicit information about the target structures. Moreover, most of this explicit knowledge followed standard

pedagogical rules. More importantly, the participants were productive in their understanding of a wide range of metalingual words, and that there was a positive connection between mastery of metalanguage and knowledge of it (Hu, 2011). Furthermore, in exploring the correlation between second language metalinguistic knowledge and achievement of EFL Turkish learners, Aydin (2018) found both variables correlating positively, and reported that higher levels of metalinguistic knowledge correlated with better achievement, which corroborates the positive role of explicit grammar teaching.

Al-Ahdel and Almarshedi (2021) also evaluated the relationship between Saudi high-achieving EFL learners' academic achievement and their metalinguistic awareness and the possible existing differences in correlation of language learning and metalinguistic awareness in male/female students' achievement. The results of such a study evoked a favorable relationship between students' metalinguistic awareness and their degree of academic and English language proficiency (Al-Ahdel & Almarshedi, 2021). Sanosi (2022), in a similar study exploring the correlation between EFL undergraduate learners' metalinguistic knowledge and their grammatical accuracy, revealed a significant positive relationship between the study variables and eventually voiced claims supportive for explicit teaching of grammar.

The aforementioned body of research largely provides compelling evidence on the varying degrees of correlation between learners' metalinguistic knowledge and achievement. It also highlights the significant importance of explicit types of instruction for its nuanced implications for addressing the teaching/learning ever-changing requirements.

3. Method

3.1. Research Design

The current study is grounded in descriptive research design using a quantitative descriptive approach to data collection. In line with the aforementioned study aims, and in order to examine the strength and direction of the relationship between the study variables, namely, grammar achievement and metalinguistic knowledge, a correlational analysis stands to be of particular relevance. This type of analysis aims at making estimates about the relationship between variables (Mertens and McLaughlin, 2004). Given the parametric nature of data in correlational research (Dornyei, 2007), and because correlation is predominantly explanatory and/or probability-driven and is manipulation-free (Mertens, 2010; Mertens and McLaughlin, 2004), approaching correlational analysis necessitates making decisions on the choice of the correlation coefficient. The Pearson product-moment coefficient ' r ', used for variables with a continuous scale, and ranging between 0 and ± 1.00 (Dornyei, 2007; Mertens, 2010), has been calculated to investigate the strength and direction of any existing correlation between the participants' achievement in grammar and their metalinguistic knowledge. Computation was approached using IBM SPSS Statistics 21 software (2012).

3.2. Population and Sampling

In the present study, a total of 57 Algerian EFL sophomores at the English Department of Mohammed Seddik Ben Yahia University in Jijel were randomly chosen from a cohort of 214 students to participate in the study conducted in the second semester of the academic year 2023/2024. The participants had been learning English as a foreign language for 9 to 10 years and had received explicit grammar instruction in the Grammar Course, with a three-hour weekly time load, over the last three semesters. The purposeful choice of the target study population was fostered by the belief that sophomores would no more benefit from

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explicit grammar instruction in their academic career and are supposed to have satisfactorily crafted both their metalanguage and their metalinguistic abilities, which contributes to the study's validity.

3.3. Instrumentation

In accordance with the research questions, two tests were implemented for data collection purposes: a Grammar Achievement Test (GAT) and a Metalinguistic Knowledge Test (MKT). In order to determine the participants' grammar achievement, the scores on the third semester grammar exam were anonymously recorded. This test represents an opportunity for students to demonstrate peak performance, which could lend significance to the study's findings. The participants were set to take the test for a period of one hour and a half. The GAT consisted of four tasks. The first task requires students to put the verbs in 10 sentences using the correct tense and providing justification. The second task is an error-correction task where students are supposed to correct the misuse of tenses in 10 sentences. The third one is a ten-sentence reformulation activity targeting correct use of subordinating conjunctions, coordinating conjunctions, infinitives, and adverbs, while the last task is a semi-guided production activity in which students are provided with 10 sentences describing different situations and are asked to use the given cues (verbs, adverbs, and conjunctions) to interact about them in writing. The GAT was designed and scored by the teacher of the grammar course.

Additionally, to determine the participants' metalinguistic knowledge, a MKT adopted from Elder (2009) was used. Elder (2009) actually explored the MKT validity relying on a number of hypotheses derived from prior research into the nature of 'metalinguistic knowledge'. Moreover, the MKT has a very high internal consistency ($\alpha=0.90$) and a high case reliability estimated at 0.88, showing a sufficiently high degree of discrimination between test takers with varying ability levels (Elder, 2009), which justifies the appropriateness of the test to the test takers' level. The MKT was administered a couple of days after the administration of the GAT in order to maximize opportunities for test takers to have a stabilized grammar achievement level and escape the risk of falsifying results. The participants took the MKT and were told not to exceed one hour and a half to complete the test, giving them equal time opportunity as that of the GAT. In actual fact, it was both demanding and time-consuming for students to take two different tests at the same occasion. That was the reason for which the researcher decided to postpone the administration of the MKT.

The MKT consists of two parts. In part one, which aims at measuring knowledge of grammar rules, it is explained that the given 17 sentences are all ungrammatical. Relatedly, the participants are not supposed to judge the grammaticality of such sentences in which the errors have been underlined. Rather, they are given multiple-choice questions with accurate and inaccurate explanations-most of which containing basic metalinguistic terminology- of the target language rule each case violated (Elder, 2009). The second part of the MKT contains two sub-sections: the first one requires learners to read a short text and match a 19-item list of grammatical terminology to their corresponding exemplars in a sentence written in English in order to test their knowledge of metalanguage; in the second sub-section, they are additionally asked to underline the sentence element corresponding to the four named grammatical parts of the sentence identified in brackets (Elder, 2009). As for the scoring procedure, it consists in attributing half a point (0.5 point) for each correct answer. The MKT was scored by the researcher given the fact that there was no way for inaccuracy as no

possible alternative answers other than the correct answer were possible. Both the GAT and the MKT were scored out of 20, guarantying comparability and normalization of both tests scores. In order to account for variations in tests items difficulty, both the GAT and the MKT covered comparable grammar terminology and content. The data recorded from the MKT were anonymously treated and codified with account for each individual participant performance in the GAT for practical considerations in the statistical treatment of data.

4- Results

For the sake of answering the questions guiding the study, the data collected from both the GAT and the MKT, respectively, have been analysed statistically, and the findings are summarised in the tables below. The analysis of the results is organized with reference to each test, independently, before introducing correlational analysis of both tests results.

4.1. Analysis of the Grammar Achievement Test Results

With relevance to the first research question, which aims at estimating the participant students' achievement in grammar, the participants' scores in the GAT were statistically analysed, and the results are represented in table 1.

Table 1: Descriptive Statistics of the Participants' Scores in the GAT

	Minimum Score	Maximum Score	Mean	Std. Deviation	Total
GAT	1	17	8,5614	3,97433	57

As displayed in table 1, the participants' scores on the GAT varied from 1 to 17 out of 20. Moreover, having a mean value computed to 8, 5614, which is below the average, indicates that the students, overall, have a limited achievement level in grammar. The standard deviation value, which is calculated to 3,97433, implies that the individual scores tend to deviate in a significant way from the mean and have a large variability. Relatedly, and given the high variability level in the scores of the GAT, the participants can be categorized into high achievers (10 and more) and low achievers (below 10), as shown in the table below:

Table 2: Classification of the Participants in the GAT according to their Achievement

Tests	High Achievers		Low Achievers		Total	
	(10≤)		(<10)			
	N	%	N	%	N	%
GAT	23	40.35	34	59.65	57	100

The descriptive data displayed in table 3 summarise the participants' achievement in the GAT. At first glance, it is very noticeable that the 57 participants have varying scores in the GAT, with a higher frequency for scores below 10 (34 subjects) if compared to those above the average (23 subjects). Put differently, low achievers (59.65%) outnumbered high

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achievers (40.35%), which means that a large portion of the participants have a limited level of achievement in grammar.

4.2. Analysis of the Metalinguistic Knowledge Test Results

The second test making part of the present study is the MKT, which was implemented to measure the participants' metalinguistic knowledge. As a starting point, it is noteworthy that in the present study, the construct of metalinguistic knowledge has been operationalised to refer to explicit knowledge of the linguistic and grammatical rules of the target language, and knowledge about metalinguistic terminology, too. In order to answer the second research question addressing the participants' level of metalinguistic knowledge, the students' overall scores in the MKT have been recorded, together with the scores recorded in each of the two test parts, with each part focusing on a given aspect of metalinguistic knowledge. As for part one, it aims at measuring the students' knowledge about the grammar rules. Part two, on the other hand, aims at measuring the students' understanding of metalinguistic terminology. The descriptive statistics are introduced in table 3.

Table 3: Descriptive Statistics of the Participants' Overall Scores in the MKT

	Min Score	Max Score	Mean	SD	Total
MKT/20	4	17.5	11,2807	2,76944	57

As shown on table 3 above, the participants' overall scores recorded on the MKT vary considerably, from a minimum score of 4 out of 20 to a maximum value of 17.5 out of 20. In addition, the individual 57 scores recorded have a mean value estimated at 11,2807, which implies that the students hold an acceptable metalinguistic knowledge level. Furthermore, the relatively low numerical value of the standard deviation of the MKT (SD=2,76944) indicates that the scores are close to mean and exhibit little variability, suggesting more homogeneity in the participants' performance in the MKT. Table 4 below displays the students' detailed scores in each part of the MKT.

Table 4: Descriptive Statistics of the Participants' Detailed Scores in the MKT Parts

Test Part	Min Score	Max Score	Mean	SD	Total
MKT 1: Knowledge of Grammar Rules (/8.5)	1/8.5	7/8.5	3,7895	1,28504	57
MKT 2: Metalinguistic Terminology(/11.5)	1.5/11.5	11.5/11.5	7,526316	2,18236	57

As shown on the table, in the first part of the MKT, which aimed at measuring the participants' knowledge of grammar rules, the scores ranged from 1 to 7 out of 8.5, with an average score calculated to about 3, 79. In addition, the standard deviation was approximate

to 1,29, indicating that the scores are spread around the mean and suggesting that most students had more or less similar knowledge of grammar rules with less variation. As for the second part of the test, which measures the students' knowledge of metalinguistic terminology, the 57 participants recorded scores ranging from 1.5 to 11.5, and an average score of about 7.53. The standard deviation was computed to 2,18, indicating a larger spread of scores in comparison to those of part one and implying that the students' understanding of metalinguistic terminology varied more widely, with very high and low scores. Hence, it is noteworthy that the 57 participants showed better performance in metalinguistic terminology (part one) (mean below 4.25) than in knowledge of grammar rules (part two) (Mean above 5.25), with more variability in the second part. Overall, such findings have helped categorise the participants into high and low achievers, as shown below.

Table 5: Classification of the Participants in the MKT according to Achievement

Test	High Achievers ($10 \leq$)		Low Achievers (<10)		Total	
	N	%	N	%	N	%
MKT	42	73.68	15	26.32	57	100

The descriptive statistical data displayed in table 6 summarises the participants' achievement in the MKT. At first glance, it is very noticeable that the 57 the participants' achievement the MKT was much better than that in the GAT (see table 3), with the majority (42 subjects) having the average score or more. Hence, the findings revealed the existence of some variation in the students' scores, with high achievers (73.68%) outnumbering low achievers (26.32%).

4.3. The Correlation between the GAT and the MKT Results

For the purpose of answering the third posed question directing the study, aiming at determining the strength and direction of the linear relationship between the participants' achievement in grammar and their metalinguistic knowledge, Pearson correlation coefficient was calculated, and the findings are displayed in table 6.

Table 6: Pearson Correlation Coefficient of the Tests

	GAT	MKT
GAT Pearson Coefficient r	1	,432**
Sig (2-tailed)		,001
MKT Pearson Coefficient r	,432**	1
Sig (2-tailed)	,001	

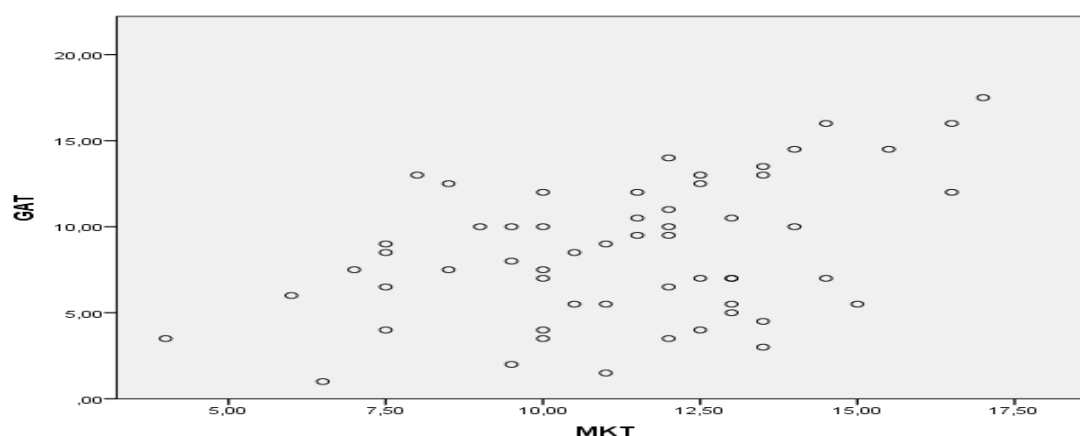
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Total	57	57
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** . Correlation is significant at the 0.01 level (2-tailed).

The table above reports results of the correlation between the participants' grammar achievement and their overall level of metalinguistic knowledge, with the Pearson correlation coefficient calculated to $r = 0,432$. Overall, the results suggest a statistically significant moderate positive correlation between the participants' GAT and MKT scores ($r = 0,432$ / $Sig = 0,001$), which in turn means that as the participants' GAT scores increase, the MKT scores tend to be higher. In addition, the significance value level ($Sig = 0,001$) points to the fact that correlation is statistically significant. This means that the relationship between the scores recorded in both tests is not likely to have been the result of chance. Put differently, the participants who showed good performance in the GAT tended to perform well in the MKT and the vice versa. The scatter plot below displays the magnitude and direction of the correlation between both tests scores.

Figure 1: Scatterplot of the participants' tests scores ($r = 0,432$)



As figure 1 shows, the two variables do not completely display a linear association in that the GAT and MKT scores do not increase by the same rate. Moreover, it is clear that though not fully linear, the scores association seems to be moderately positive as the majority of the participants' scores of the GAT increase as those of the MKT tend to do. In order to determine any existing relationship between the participants' achievement in grammar and their scores in the MKT parts, each aiming at measuring a given aspect of metalinguistic knowledge, Pearson coefficient was calculated. Prior to calculating the correlation coefficient, and given the fact that the MKT parts were not scored out of 20, the Z cores of the MKT scores recorded in both parts were computed before calculating the correlation coefficient. The results are reported in the table 7 and table 8 below.

Table 7: Pearson Correlation Coefficient of the GAT and MKT 1

	GAT	Z score (MKT 1)
GAT Pearson Coefficient r		,448**

	1	
Sig (2-tailed)		,000
Z score (MKT 1) Pearson Coefficient r	,448**	1
Sig (2-tailed)	,000	
Total	57	57

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

To explore the correlation between the students' grammar achievement and their knowledge of grammatical rules, as a given aspect of metalinguistic knowledge, Pearson coefficient was calculated. As displayed above, Pearson coefficient value of 0,448 indicates that there is a moderate positive correlation between the two scores sets. Moreover, obtaining a coefficient value 0,448 at the 0,01 level points to the fact that there is very low probability that such correlation was due to chance, which was, in turn, confirmed by the (Sig) value of 0,000. Thus, the results are statistically significant. Similarly, table 8 represents the findings of the correlation analysis between the students' grammar achievement and their knowledge of metalinguistic terminology.

Table 8: Pearson Correlation Coefficient of the GAT and MKT 2

	GAT	Z score (MKT 2)
GAT Pearson Coefficient r	1	,275*
Sig (2-tailed)		,038
Z score (MKT 2) Pearson Coefficient r	,275*	1
Sig (2-tailed)	,038	
Total	57	57

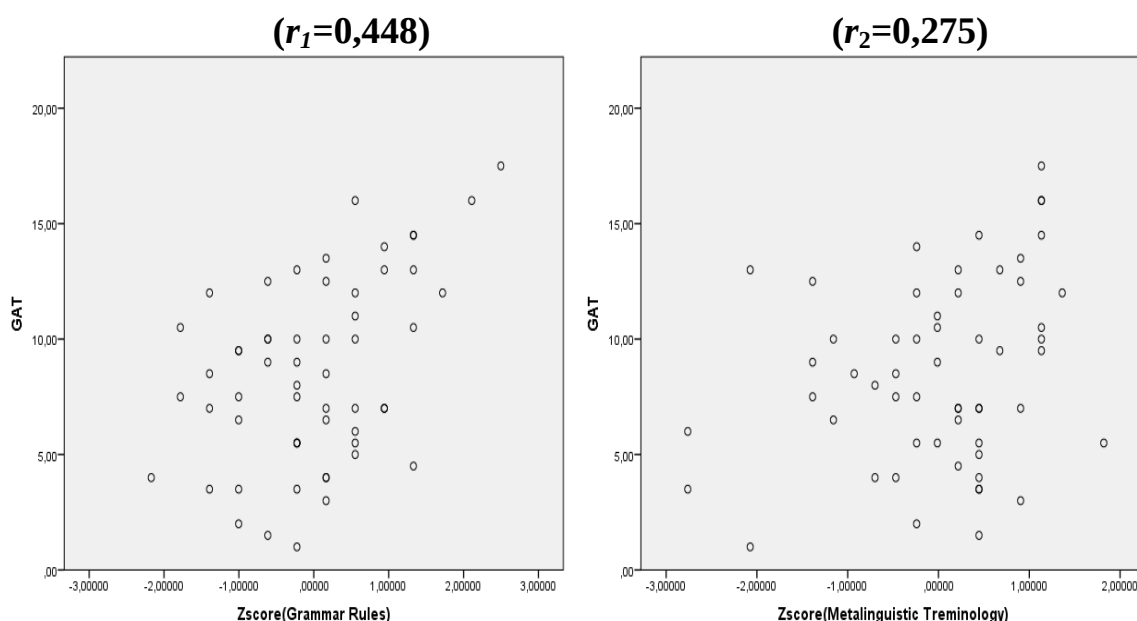
*. Correlation is significant at the 0.05 level (2-tailed).

As table 8 shows, the Pearson coefficient correlation calculated to 0,275 indicates the existence of a weak positive correlation between the participants' grammar achievement and their level of metalinguistic terminology. Put differently, as the scores of the GAT increase, the Z scores of metalinguistic terminology also tend to increase but slightly. However, the correlation is said to be statistically significant at the 0,05 level, meaning that there is low probability that correlation between the students' achievement and their knowledge of metalinguistic terminology is the result of random chance.

For the sake of visualizing the strength and direction of the correlation between the students achievement in grammar and their knowledge of the metalinguistic knowledge aspects, figure 2 below, summarises the findings.

Figure 2: Scatterplots of the participants' scores in the GAT and the MKT parts

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As it can be observed, in both parts of the MKT (measuring both knowledge of grammar rules and metalinguistic terminology, respectively), the scores tend to rise as those of the GAT do, which suggests the positive relationship between each of the two aspects of metalinguistic knowledge and the students' grammar achievement. However, and as displayed in the figure above, the points are not very close to show a straight line, pointing to the fact that the correlation between both parts of the MKT and grammar achievement is not really strong. When comparing the students' performance in both parts of the MKT, it was found that their knowledge of the metalinguistic terminology (part two) was better than their understanding of the grammar rules (part one); hence, the correlation between the scores of part one and the GAT is slightly stronger than the correlation between the scores of part two and the GAT. Such findings may confirm the results recorded in the GAT. In other words, because the GAT scores were not that high, and so were those of the first part of the MKT, the value of the Pearson correlation coefficient was higher than its value in the correlation of part two scores and the GAT scores ($r=0,448$ and $r=0,275$).

5-Discussion

While metalinguistic knowledge only makes part of learners' achievement in grammar, attempts to measure the degree of association of both constructs seems necessary. The present study, which mainly purports to investigate the relationship between second year undergraduates' grammar achievement and their metalinguistic knowledge, has come to record remarkable differences in relation to the participants' level of achievement in both tests. As for the GAT, the findings confirmed the participants' overall limited grammar abilities as a considerable number of them recorded test scores inferior to the average (59.65%), while a percentage estimated to 40.35% received scores superior to 10. Though being modest in disparity, such a finding seems demotivating because the participants are intermediate-level students who are expected to have no alternative opportunity to receive explicit grammar instruction and to and to refine their skills. Moreover, given the centrality of knowledge about grammar to developing the multidimensional communicative competence required for target language use, it is more than imperative to rethink the nature and quality of

instruction in the grammar course in such a way to make it geared towards both explicitness and implicitness (Ellis, 2005), with concern for the communicative dimension of language use. Accordingly, teachers and field practitioners need to make decision to incorporate metalinguistic activities such as consciousness-raising tasks and metalinguistic corrective feedback into their teaching practices and programmes.

In the MKT, a large number of students (73.68%) had a good level of metalinguistic knowledge, with varying degrees, while a limited portion (26.32%) were considered to be low achievers. Considering each aspect of metalinguistic knowledge targeted in each test part, many attributes are noteworthy. Firstly, the findings recorded in the first part of the MKT, which aims at measuring the students' knowledge of grammar rules, translate the limited level of their knowledge and may explain their modest performance in the GAT. Put differently, because both the GAT and the first part of the MKT directly relate to the students' understanding of the grammar rules and to making judgement on test items accuracy, they invite the students to make use of their analytical abilities.

Considering the results obtained in the second part of the MKT, it can be concluded that the participants do possess enough knowledge of metalinguistic terminology, which remains part and parcel of metalinguistic knowledge. Hence, the majority of the participants are thought possessing the knowledge about language and metalinguistic terminology necessary for them to study rules of grammar. Yet, they may be lacking knowledge of how to access and activate such knowledge. Such a metalinguistic knowledge may not be accessible, nor does it guarantee awareness requiring attention, monitoring, and control of that knowledge about language and be able to operationalise it. Put differently, although the MKT implemented in the present study aims at measuring the participants' knowledge about language (part 1), by choosing the correct justification, and also their knowledge of metalanguage (part 2), their knowledge about how to manipulate and control language is not actually measured. Such a perspective echoes the claim of Van Lier (1998), who considered metalinguistic knowledge, measured in solitary demonstrations of knowledge, less important than manipulating and controlling language (Van Lier, 1998; as cited in Myhill, Jones, Lines and Watson, 2012, p. 143). Likewise, Roehr (2008) explained that empirical evidence indicated that metalinguistic knowledge does in no way ensure successful performance in a second language. Likewise, Bialystok (2001, p. 121) actually confirmed that possessing metalinguistic knowledge equates having a broad understanding of language, regardless of the specificities of linguistic forms. Hence, explicit knowledge about language is not sufficient for language users to be both grammatically and communicatively competent in the target language. Notwithstanding, a portion of the participants succeeded in achieving good level in both the MKT and the GAT (33.33%), and have confirmed the strong association of their knowledge about the language and their grammatical competence.

As for the findings obtained from the correlational analysis in this study, some points are noteworthy. On the one hand, statistical analysis has helped identify the moderately positive relationship between the participants' grammar achievement and their metalinguistic knowledge, overall, and has come to affirm the results recorded in many studies (Aydin, 2018; Han & Ellis, 1998; Roehr, 2003; Sanosi, 2022), which tacitly translate the significant role of knowledge about language in learning grammar. On the other hand, the study results come to infirm those of other studies (Alderson et al., 1997), who reported a weak correlation between metalinguistic knowledge and language proficiency.

As for the correlational analysis of the students' scores in the MKT parts, each independently, and those recorded in the GAT, it has been remarked that the students' knowledge of grammar rules correlated better with their grammar achievement ($r_1=0,448$,

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$r_2=0,275$) than does knowledge of metalinguistic terminology. This may justify the students' limited level of achievement in the GAT and may point to the importance of the metalinguistic level of control as the individual's conscious control of linguistic decision making, but also to the epilinguistic level of control, or automatic language processing through linguistic organizations in memory (Myhill et al., 2012). Hence, more studies should be conducted to examine which specific components of learners' metalinguistic ability intervene much and best in activating metalinguistic awareness and how such components affect learners' grammar potential. Furthermore, more exploratory studies on what specific grammar instruction tradition best activates learners' metalinguistic awareness and also develops their abilities need to be carried out.

6-Conclusion

The present exploratory study addressed the potential relationship between grammar achievement and metalinguistic knowledge among 57 Algerian undergraduates of English in Mohammed Seddik Ben Yahia, Jijel. The overall findings of the study suggest the participants' limited level of achievement in grammar, but a relatively high level of metalinguistic knowledge. More importantly, the study results have come to translate the existence of a moderate positive correlation between both variables, ingratiating the interconnectedness of the two constructs and a priori making speculations on how to help learners invest their knowledge about language to develop their grammar abilities. In this respect, it is much recommended to subordinate foreign language grammar instruction to mediating explicit and implicit approaches accounting for both the declarative and procedural dimensions of knowledge about language in order to optimize learners' achievement.

In accordance with the theoretical accounts formulated insofar, post-hoc attributes of form-focused instruction which might be best implemented to revisit the English grammar syllabus through integrating metalinguistic awareness-raising activities in the classroom and providing metalinguistic feedback, which might, in turn, be relevant to developing EFL learners' grammar abilities. Further research is, then, recommended to examine the possible effects of such awareness-raising activities on learners' achievement in grammar. Hence, and as advocated by Ellis (2005), grammar teaching should aim at developing both explicit and implicit knowledge, for the former is only useful if it can be demonstrated that students can apply it to real-world situations while the latter promotes success in communication (Ellis, 2005). Though ambiguous such an undertaking may seem to be, acquiring grammatical forms should be subordinated to noticing, attention, and awareness of such forms, but more importantly to repeated exposure to input directed to meaning, including such forms and opportunities for production and practice (Nassaji & Fotos, 2004). In conjunction to that, concerns echoing what Ellis (2006, p. 103) called 'a personal theory of grammar teaching' may add to the efficacy of grammar instruction in that such a theory reckons what options are available, what theory-driven rationales lie behind them, and what potential challenges can arise (Ellis, 2006). This constitutes a fertile area of research for future exploration.

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