

# The acquisition of infinitive and gerund as complements in ESL by Mexican undergraduates

## La adquisición de complementos infinitivos y gerundios en inglés como segunda lengua por estudiantes mexicanos universitarios

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### Abstract

Metalinguistic awareness has been assessed primarily throughout metalinguistic knowledge and grammaticality judgment tests. Then, very limited research has been conducted on the attempt to understand how metalinguistic awareness may be developed among adolescents or young adults in verbal group reflection tasks. The present study aims to explore the performance of university students when they reflect on gerund and infinitive complements in English as L2 while they complete consciousness-raising grammar tasks with the intention to develop their metalinguistic awareness. The study links a sociocultural framework with semi-structured stimulated recall interviews on the development of metalinguistic awareness, as both help participants reflect on usage patterns and generalizations of underlying linguistic structures through verbal interaction. The evaluated data consisted of the scores of each task and the speech analysis of the participants. The results reveal that having students identify the underlying rules of gerund and infinitive complements will indirectly contribute to their acquisition. The conclusions pointed to students paying attention to specific features of the language to be fully aware of the form of the linguistic patterns.

*Keywords:* Awareness, gerund, infinitive, metalinguistic.

### Resumen

La conciencia metalingüística se ha evaluado principalmente a través de pruebas de conocimiento metalingüístico y de juicios de gramaticalidad. Entonces, existe una cantidad limitada de investigaciones cualitativas sobre cómo puede desarrollarse la conciencia metalingüística entre adolescentes o adultos jóvenes en tareas verbales de reflexión grupal. El presente estudio tiene como objetivo explorar el desempeño de estudiantes universitarios cuando estos reflexionan sobre los complementos de gerundio e infinitivo en inglés como L2 al completar tareas gramaticales para desarrollar su conciencia metalingüística. El estudio vincula un marco sociocultural con entrevistas semiestructuradas de recuerdo estimulado para el desarrollo de la conciencia metalingüística, ya que ambos ayudan a los participantes a reflexionar sobre los patrones de uso y generalizaciones en estructuras lingüísticas subyacentes a través de la interacción verbal. Los datos analizados consisten en las puntuaciones de cada tarea y el

análisis del discurso de los participantes. Los resultados revelan que hacer que los estudiantes identifiquen las reglas subyacentes de los complementos de gerundio e infinitivo contribuirá indirectamente a su adquisición. Las conclusiones apuntaron a que los estudiantes prestaran atención a las características específicas de la lengua para ser plenamente conscientes de la forma de los patrones lingüísticos.

*Palabras clave:* conciencia metalingüística, gerundio, infinitivo.

## INTRODUCTION<sup>1</sup>

In the language teaching field, experienced L2 users are believed to fully understand grammar rules (Schoonmaker & Purmensity, 2019); however, previous studies (Andrews, 1999; Moore, 2012; Njika, 2015; Schoonmaker, 2015) found that advanced learners still need to develop their metalinguistic skills. Metalinguistic awareness requires learners to understand specific grammatical features that lead to the development of explicit and declarative knowledge.

Furthermore, there is extraordinarily little mixed methodological evidence on how students use their metalinguistic awareness to respond together to form-focused tasks (Absi, 2014; Çandarlı, 2020; Egi et al., 2013; Roehr, 2006). Those studies (Ellis, 2002; Fotos, 1994; Mohamed, 2004; Salazar et al., 2018; Willis & Willis, 1996) have also suggested that L2 learners can develop metalinguistic awareness through group tasks in which they reflect on underlying grammatical rules derived from group analysis and discussion.

Taking the above into account, in the present study, students were randomly teamed first, and later asked to find examples with gerund and infinitive complements in English. The aim was to find similar patterns in these given examples to suggest grammatical rules of use on their own. Secondly, students answered a multiple-choice metalinguistic reflection activity in which they suggested changes to their own grammar rules, when necessary, to improve them and ease their understanding of these verb complements. Finally, the students determined whether some sentences were well formed or not by making a statement about the accuracy of form and structure (Rimmer, 2006) and justified their answers guided by the grammatical rules that they suggested and corrected earlier.

According to Ramirez et al. (2013), metalinguistic awareness can be understood as the ability of language users to reflect on and manipulate underlying grammatical rules of the target language. However, as Duncan et al. (2009) and Bialystok et al.

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<sup>1</sup> This article is part of an investigation carried out for a PhD thesis in Linguistics at the Universidad Autónoma de Querétaro. I wish to express my gratitude to my main supervisor, Ma. De Lourdes Rico Cruz, who guided me throughout this project and offered me deep insight into this study.

(2014) have stated, only expert speakers can notice grammatical rules, and hence focus on the formal aspects of the language. One way to promote explicit knowledge of target grammatical structures is through activities in which students can reflect on the grammar and discover the rules for themselves.

Consequently, being able to reflect on and manipulate grammatical rules is a skill that can be developed at later stages of language acquisition after gradually mastering basic language structures (Altman et al., 2018). To ensure the development of metalinguistic skills, learners should be provided with a series of exercises that encourage them to analyze and observe target structures regularly so that they can suggest grammatical patterns on their own.

In English grammar, some verbs must be followed by gerunds (as in “She *enjoys drinking* iced tea”). *Discuss, anticipate, despise, consider* or *deny* are included in this category. On the other hand, verbs such as *agree, ask, decide, expect* or *plan* must be followed by infinitives (such as on “He *needed to sell* his car”). Although some verbs can be followed by both gerunds and infinitives changing the meaning (as in “He’ll never *forget spending* so much money on his first computer” looks back in the past or “Don’t *forget to spend* money on the tickets” looks into the future), the present study is limited to examining the cases in which there are two verbs together and the second verb must be either a gerund or an infinitive.

When it comes to Mexican learners, even advanced English pupils have a hard time mastering some forms of the language (Ko, 2022; Payant & Maatouk, 2022; Weissberg, 2000), especially when these forms are different from their L1 (Spanish). One of the most notorious errors they have shown is the use of infinitive and gerund complements in English, especially when they hesitate between using infinitives (to) or gerunds (*-ing*) after certain verbs.

Considering the afore mentioned phenomena, this research was designed to develop metalinguistic awareness of gerund and infinitive complements by having students work together so that they can analyze sentences and suggest grammatical rules by themselves. Additionally, through stimulated recall interviews and group discussions, participants had to devise grammatical rules so that they could describe the rules for gerund and infinitive complements focusing on grammatical features and providing data to exemplify their usage.

It is important to conduct classroom research that allows advanced learners to develop explicit knowledge of grammar through oral problem-solving tasks (Rezaei & Hosseinpur, 2011). Unfortunately, not many studies have attempted to examine group communication to develop the metalinguistic awareness of gerund and infinitive complements through awareness-rising speech tasks. Therefore, this study aims to identify and explore the exchange of ideas among English learners as they analyze sentences to suggest their own grammatical rules leading to a better understanding and full acquisition of those structures.

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Finally, since Widodo (2006) and Ellis (2002) claimed that teachers can help students develop their own knowledge of grammar rules by providing exercises in which students can think of grammatical functions on their own to trigger a full understanding of those grammar rules, this project aimed to promote, in the first place, team reflection to foster metalinguistic awareness through the completion of grammatical tasks, and second, prompted recall interviews were expected to make students notice grammatical structures that they might not notice on their own.

## THEORETICAL FRAMEWORK

### Metalinguistic awareness of infinitive and gerund complements

Ramirez et al. (2013) state that metalinguistic awareness is the ability to reflect on and manipulate structures in a language. Therefore, the best way to nurture it is through consciousness-raising activities that require verbal reflection and control of language forms. According to Ellis (2002), consciousness-raising activities help isolate linguistic features so that students can first discover explicit rules and then describe specific features through data analysis.

According to Steven Pinker (1999), students learn grammar rules by applying and memorizing them. However, instead of asking students to memorize long lists of verbs, it was expected to encourage learners to create and use their own grammar rules on gerunds and infinitives after certain verbs and become aware of their use. As Ellis (2002) stated, consciousness-raising activities are inductive tasks in which learners focus on particular grammatical features and analyze them to come to an understanding of how the feature works.

First, there is a technique suggested by Gass and Mackey (2000) known as *stimulated recall*, in which participants remember what they were thinking while answering a task as a visual stimulus is displayed to bring back important events. Through this type of reflection, students can focus on aspects that they did not notice when they were answering the consciousness-raising activities. Thus, to stimulate a commentary on thoughts about decision making, screenshots of the video in which students responded to the metalinguistic activities were shown while participants were interviewed about their impressions of the use of gerunds and infinitives after certain verbs. In addition to stimulated recall interviews, consciousness-raising activities can boost the acquisition of gerund and infinitive complements as they encourage students to find grammatical rules for themselves, as their attention is drawn to specific features (Salazar et al., 2018). As Ellis (2006) advised, consciousness-raising activities engage participants, since they must reflect and communicate the target grammar rules. According to Ellis, consciousness-raising activities can help teachers develop students' metalinguistic awareness by having them analyze a set of L2 sentences to determine linguistic patterns that they can then apply to other data.



tion “to” is primarily associated with a goal. In other words, it traditionally implies a temporal projection into the future. So, infinitive complements indicate movement in space and time, showing direction and destination.

Since the traditional approach to teaching grammar is neither engaging nor meaningful (Ellis, 2002; Fotos, 1994; Roza, 2014; Willis & Willis, 1996), Dickens and Woods (1988) suggest that the teacher should make students aware of specific grammatical features through grammatical problem-solving tasks. In other words, in this study students are provided with sample sentences of gerund and infinitive complements and then asked to find underlying patterns to suggest grammatical rules regarding the English formula [main verb + infinitive or gerund]. As Petrovitz (2001) once said, the gerund and infinitives are among the most difficult topics to learn and a continuous source of errors even among advanced students. Therefore, understanding the underlying syntactic structures of gerunds and infinitives as the object of a sentence rather than memorizing long lists of verbs is considered an essential process in learning English as a second language.

### The current study

Since the purpose of this research project is to explore the relationships between metacognitive and scaffolding factors in relation to the acquisition of gerund and infinitive complements in L2 by university students through the methodology of stimulated recalled and metalinguistic tasks, the study aims to answer the following research questions: 1) What impact does the development of metalinguistic awareness have on the acquisition of infinitive and gerund complements in English as L2?, 2) How is the collective reflection among peers carried out when creating, using, and reconstructing grammar rules for infinitive and gerund complements in English as L2? How do learners build, step by step, their grammar rules when they do it in a group discussion?

### METHODOLOGY

The current project is an exploratory study requiring mixed methods research analysis (Ha, 2022) to fully examine the development of metalinguistic awareness (Tunmer & Herriman, 1984) of gerund and infinitive complements (Duffley, 2000) driven by discourse analysis and semi-structured interviews (Gass & Mackey, 2016). This research attempts to encourage Mexican university students to interact with each other when performing verbal metalinguistic tasks and reflect on the grammatical rules (Ellis, 2002) underlying gerunds and infinitives after certain verbs to suggest verbal patterns for themselves.

Vygotsky’s proposal of microgenetic analysis for social interaction is necessary as students engage in meaningful activities to develop their metalinguistic awareness skills to internalize L2 grammar through oral problem-solving tasks (Ableeva &

Lantolf, 2011; Aljaafreh & Lantolf, 1994; Lantolf & Pavlenko, 1995). The collaborative participation activities suggested in this study help students internalize gerund and infinitive complements, which contribute to their metalinguistic development.

### Participants

Sixteen undergraduate students in modern languages in English from a Mexican State university accepted to participate in this study. These Mexican university students had been trained in teaching English as a second language, linguistics, translation, and literature for almost two years. According to a diagnostic test by the Common European Framework of Reference (CEFR), the English level of the participants ranged from intermediate (B1) to upper-intermediate (B2) and advanced (C1). Since the linguistic competence of the participants was heterogeneous, random grouping allowed the researcher to divide students into four groups of four students each, as shown in Table 1.

**Table 1**

*Random grouping of the four heterogeneous teams*

Team	Participant	CEFR	Level	Gender	Age
1	1A	B2	Upper Intermediate	F	20
	1B	B2	Upper Intermediate	F	20
	1C	B1	Intermediate	F	21
	1D	B2	Upper Intermediate	F	23
2	2A	B1	Intermediate	F	22
	2B	B2	Upper Intermediate	F	24
	2C	C1	Advanced	M	20
	2D	B2	Upper Intermediate	M	27
3	3A	B1	Intermediate	F	22
	3B	B1	Intermediate	F	22
	3C	B1	Intermediate	F	22
	3D	C1	Advanced	F	21
4	4A	C1	Advanced	F	20
	4B	B1	Intermediate	F	21
	4C	B2	Upper Intermediate	F	21
	4D	B2	Upper Intermediate	F	22

Note. The language proficiency levels in the diagnostic examination are governed by the CEFR.

Table 1 shows that team 1 is made up of three upper intermediate levels and one intermediate; team 2 by two upper intermediate levels, one intermediate and one advanced; team 3 by three intermediate levels and one advanced and team 4 by one advanced, one intermediate and two upper intermediate levels. The participants were all native Spanish speakers between the ages of 20 and 27 and only two of them were men.

### Stimuli in the database

To reduce the number of verbs in a long list, word frequency lists and keyword analysis from the Contemporary Corpus of American English (COCA) (Davies, 2008) were referred to as follows: a) List of 26 verbs commonly preceded by gerunds according to COCA: *admit, advise, allow, appreciate, avoid, consider, continue, delay, detest, discuss, fancy, fear, finish, imagine, keep* (continue), *mention, mind* (object to), *miss, practice, quit, recall, recommend, resent, resist, risk*, and *suggest*. b) List of 26 verbs commonly preceded by infinitives with “to” according to COCA: *agree, appear, attempt, care, choose, come, decide, deserve, expect, fail, get, hope, learn, manage, need, offer, plan, promise, refuse, seek, seem, struggle, tend, wait, want*, and *wish*.

### Instruments

Willis and Willis (1996) and Roza (2014) argued that consciousness-raising activities can complement traditional grammar teaching since L2 learners identify and understand grammar by themselves. To establish an explicit understanding of the gerunds and infinitives as the object of a sentence, group verbal tasks were provided. This series of consciousness-raising tasks were designed to raise students’ awareness of gerunds and infinitives after certain verbs.

#### 1) *Diagnostic test*

Before the study began, a multiple-choice exercise was provided to explore the participants’ grammar knowledge about gerunds and infinitives as the object of a sentence. Participants were asked to answer the tasks interactively to move from implicit knowledge (conscious awareness of formal linguistic properties) to explicit knowledge (unconscious information of grammatical rules). This survey question provided thirteen items with multiple answer options as shown in Example 2.

- Example 2 I *finished* \_\_\_\_ at five o’clock last night and went home.
- A) work
  - B) to work
  - C) *working*

*Note.* The correct answer is c) *working*.

#### 2) *To establish a rule or grammatical pattern exercise*

As an attempt to isolate the linguistic features of gerunds and infinitives as objects, participants provided sample sentences illustrating the specific features; they then turned their attention to the grammatical structure to suggest explicit grammatical rules for the language in use. In other words, each team searched for individual and decontextualized sentences with infinitive and gerund complements in English. Once students gathered their examples, they observed similarities and suggested grammar rules. Here are some examples (3 a-b).

- Example 3
- a Rule for gerund complement suggested by one of the teams: Talks about reality  
Example of a gerund complement sentence suggested by one of the teams: “She *continues ignoring* my text message”.
  - b Rule for infinitive complement sentence suggested by one of the teams: Emphasis on the result  
Example of an infinitive complement sentence suggested by one of the teams: “She *loves to paint* roses”.

### 3) *To edit or correct the suggested grammar rules*

At the beginning of the investigation, students show implicit knowledge by choosing a response based on intuitive feelings about what may be right and what is wrong, but in this session students were able to identify underlying verbal patterns. The third instrument was a fill-in-the-blank exercise in which suggested grammatical rules for infinitives and gerunds as objects were reviewed. The goal was to edit the rules as needed while the students worked throughout the task and reflected on their own rules, as shown in Example 4.

- Example 4 They hope (get) \_\_\_\_\_ more customers or to reduce their own costs.

The exercise included two hundred and eight items on a snakes and ladders board game. Since the previous awareness activities allowed participants to formulate grammatical rules for themselves based on multiple examples and linguistic contexts, during this session, students took turns filling in the snakes and ladders blanks using the grammatical rules suggested in the previous session. The goal was to edit the rules, if necessary, as in Examples 5 (a-b):

- Example 5
- a Rule for gerund complement suggested by one of the teams: Talks about reality  
Example of a gerund complement sentence suggested by one of the teams: “She *continues ignoring* my text message”.  
Grammar rule edited for gerund complement suggested by one of the teams: Future realities and general statements
  - b Rule for infinitive complement suggested by one of the teams: Emphasis on the result  
Example of an infinitive complement sentence suggested by one of the teams: “She *loves to paint* roses”.  
Grammar rule edited for infinitive complement suggested by one of the teams: Possibility and plan

### 4) *The correction and justification of grammatical errors exercise*

The fourth instrument was an exercise to correct and justify grammatical errors in which the participants made an intuitive pronouncement about the accuracy of form and structure in decontextualized individual sentences by applying the previously suggested grammar rules. The exercise consisted of thirty items. Since in the previ-

ous sessions students practiced with their grammar rules, during this one they were able to correct and justify ungrammatical sentences using their own rules as shown in Examples 6 (a-d).

- Example 6      \*Many people *struggle getting* out of debt.  
Correction: *to get*
- a Description/Explanation team 1: Makes a transition of actions
  - b Description/Explanation team 2: Emotions/willingness
  - c Description/Explanation team 3: Subjunctive, routine/missing preposition
  - d Description/Explanation team 4: Focused on the result

*Note.* The use of the asterisk at the beginning of the sentence means that it is not grammatical.

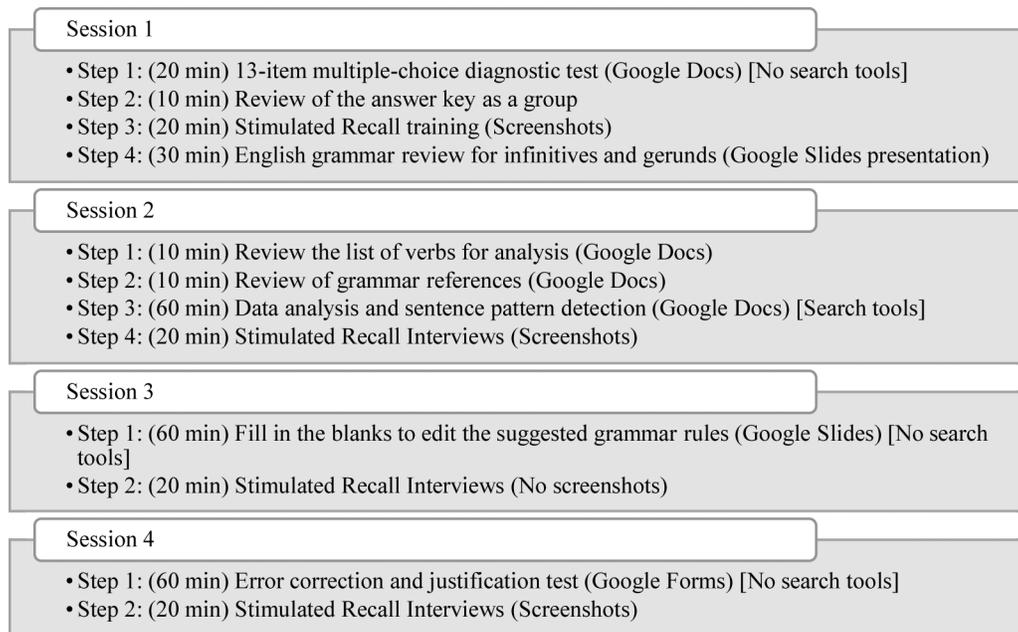
26 items were presented to the participants. Half of them were infinitives complements. Similarly, sentences were evenly divided into correct and incorrect. Finally, 20% of the items were considered distractors. It has been said (Gutiérrez, 2013) that correct sentences evoke implicit knowledge and that ungrammatical sentences require explicit knowledge because students need to manipulate rules at their own pace.

## Design

Prior to carrying out the research, in a previous session, the participants signed a letter of informed consent and asked questions regarding their participation. Afterwards, four sessions were recorded on video for later transcription. Likewise, participants were interviewed at the end of each task to encourage their insight on the metalinguistic tasks. Thus, the main objective of this pedagogical intervention was to guide the participants in the process of analyzing linguistic patterns so that they could create their own grammar rules and test their knowledge by answering metalinguistic tasks together. Throughout their verbal reflections, participants were able to analyze underlying structures and patterns from verbal cues to benefit their acquisition processes, as shown in Figure 1. Sessions were conducted via Zoom video calls and students always worked in teams of four.

First, a teacher explicitly explained the grammar in use for gerunds and infinitives as objects, then the participants practiced in a mechanical and controlled way. Finally, the participants communicated more freely when using the grammar rules that they suggested. During the first two meetings, infinitive and gerund complements were reviewed, then, some examples were analyzed to generate explicit grammar rules. In the third session, the linguistic patterns suggested from the collected data were corrected and edited. Finally, the students were evaluated using a grammaticality judgment test (GJT) where in addition to determining whether the isolated and decontextualized sentences were well formed or not, the participants had to correct and justify their answers by providing an explanation for the grammatical error using their own rules.

**Figure 1**  
*Sessions and steps for data collection*

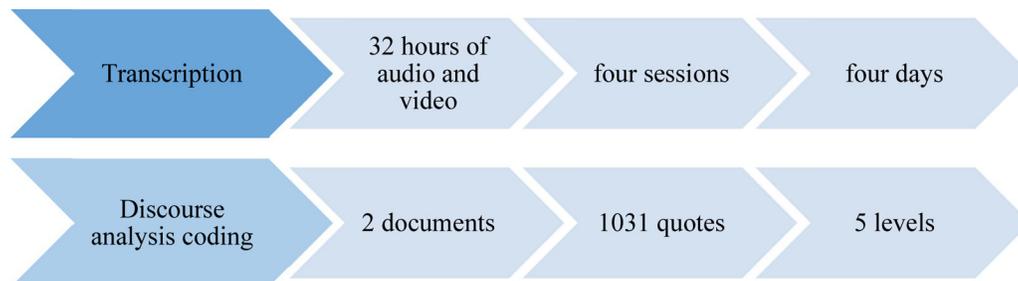


Own elaboration.

## ANALYSIS

This is a mixed methodology designed to explore quantitative and qualitative data on the acquisition of infinitive and gerund complements in English as L2 from a socio-cultural approach in which correct answers and discourse analysis play an important role. First, the sessions were videotaped, and second, the recordings were analyzed multiple times. Third, the dialogues were transcribed to reveal the type of interaction that was taking place among the students as they developed their metalinguistic awareness. The statements were then coded according to levels of development of metalinguistic awareness. Finally, a model was suggested to detect these levels of analysis at each stage.

As shown in Figure 2, the analysis of both these tapes and the answers to the stimulated recall interviews allowed the researcher to spot five different levels of metalinguistic awareness and suggest a model known as REREACHA. It is important to mention that the speech of the participants was transcribed and coded with the ATLAS.ti program. The participants' dialogues made it possible to observe their hypotheses and assumptions when formulating and suggesting changes and adjustments to their rules for infinitive and gerund complements.

**Figure 2***Encoding of the speech of the participant*

Own elaboration.

### Scores and percentages on the assignments

Regarding the analysis of the quantitative results, the correct answers were collected and analyzed, and then percentages were obtained. This quantitative approach helped to identify trends and averages in descriptive statistics. Statistical data analysis was managed with SPSS software to report practices and results. The scores for each task and the interpretation of the results in the sequence are presented below.

#### Task 1

In second language acquisition (SLA) research, the use of multiple-choice format in tests of grammaticality and metalinguistic judgment is a standardized method that helps students make inferences about the syntactic structures and rules that constitute their linguistic competence. The objective of the first task was to review what the students had learned about infinitive and gerund complements through a multiple-choice exercise. The students were not asked to justify their answers, they only chose one from the given possibilities.

**Table 2***Scores for the multiple-choice exercise*

Team	Score	%
1	11/13	84,62
2	10/13	76,92
3	10/13	76,92
4	9/13	69,23

Note. The maximum score in the exercise is thirteen (100%).

Own elaboration.

Table 2 shows that neither of the four teams got a perfect score. This might suggest that students still find it difficult to decide between an infinitive or a gerund complement. Non-native English speakers and even native speakers often have difficulty judging the grammaticality of a sentence, as they are not used to manipulating, reflecting, or analyzing linguistic data (Gutiérrez, 2013). Collaborative consciousness-

raising activities help participants discover grammatical structures for themselves so that they can internalize them.

**Table 3**

*Descriptive statistics for the multiple-choice exercise*

	Minimum	Maximum	Mean	Standard deviation
Scores	9	11	10	.816

Note. This is the first task in the didactic sequence.

Own elaboration.

The objective of the first multiple choice task was to review what the students knew about these complements. Table 3 shows, in the first place, the value of the standard deviation which is .816 ( $\sigma = .816$ ). This value is high; therefore, the data is spread over a wide range of values. Second, the average of the scores of the four teams is not very close to the desired one ( $n = 13$ ), which means that this value is not significant. Likewise, the range of the interval between the maximum value and the minimum one shows that there is very little dispersion between the data.

Therefore, participants are still unable to understand and correctly use infinitive and gerunds complements in L2 English. Apparently, the first attempt of the participants is to memorize the list of verbs that must be followed by a gerund or an infinitive, this means that the students have not learned to examine the two complement forms to suggest verbal patterns and formulate rules beyond the use of *-ing* in continuous tenses or the use of prepositional phrases for the infinitive.

### Task 2

The objective of the second activity was for students to search for sentences with gerund and infinitive complements after certain verbs. To determine the underlying structures of gerund and infinitive complements, a set of verbs was given to the students previously. Students were able to check physical or digital sources. This attempt to search for samples with gerunds and infinitives after certain verbs requires students to understand specific grammatical features to develop explicit or declarative knowledge.

**Table 4**

*Number of examples and suggested grammar rules per team*

Team	Number of examples	Number of grammar rules
1	15	15
2	22	9
3	24	5
4	32	5

Note. The number of examples and rules varies according to the analysis of each team.

Own elaboration.

Table 4 shows that, on the one hand, team number 1 managed to suggest a rule for each sentence they found, whereas team four had many examples, but very few rules of use. As a result, teams two, three, and four realized that some examples were similar to each other and would therefore share the same adjacent rule. In other words, students attempted to contrast functions and classify relationships between infinitive and gerund complements, but some failed to group similar verbal patterns.

Since gerunds and infinitives are not simply verbal complements, participants found *-ing* forms and “to” prepositions in certain sentences and decided to analyze them as well. Consequently, students became confused and listed infinitives and gerunds in different positions, as shown in Table 4, although they were specifically asked to find infinitive and gerund complements only. This approach to teaching explicit grammar knowledge requires grammar discovery activities, such as finding their own sample sentences.

**Table 5**

*Occurrences of sentences made by students*

Rank	Team				Totals by category
	1	2	3	4	
<b>Infinitive and gerund complements</b>					
*after certain verbs	7	11	23	25	66
difference in meaning	0	5	0	3	8
<b>Infinitive without preposition “to”</b>					
after modal verbs	1	0	0	0	1
<b>Gerund</b>					
after prepositions	1	0	1	0	2
as a noun	2	0	0	0	2
general preference	0	1	0	4	5
present simple continuous	1	1	0	0	2
present perfect continuous	1	0	0	0	1
past simple continuous	0	1	0	0	1
future simple continuous	1	0	0	0	1
<b>to Infinitive</b>					
specific preference	0	2	0	0	2
passive voice with infinitives	0	1	0	0	1
to express purpose	1	0	0	0	1
<i>Total examples per team</i>	15	22	24	32	93

Note. Not all the sentences that the students found are infinitives and gerunds as complements in L2 (\*after certain verbs).

Own elaboration.

Table 5 shows that infinitive and gerund complements can be classified after certain verbs and with a difference in meaning. As for the first category, students chose verbs that required gerunds (*verb + ing*) and infinitives (*verb + 'to' + infinitive*), but they also analyzed sentences in which the main verb can be followed by an in-

finitive or a gerund to show a slight difference in meaning, as with *forget*, *remember*, *curse*, *repent*, *try*, and *stop*. Additionally, participants enlisted 1) infinitives without the preposition “to”, 2) gerunds after prepositions, as nouns, in general preference, and with continuous sentences, and 3) infinitives with “to” for specific preference, with passive voice, and to express purpose.

**Table 6**

*Number of rules for complements with infinitive and gerund*

Team	Grammar rules	
	Infinitive complement	Gerund complement
1	6	9
2	5	4
3	2	3
4	3	2

Note. The number of rules varies according to the analysis of each team.

Own elaboration.

As for the examples with gerunds and infinitives after certain verbs, Table 6 shows that the number of grammar rules for verb complements was not even. This analysis depended on the organization of each team and their level of metalinguistic reflection. Gerunds and infinitives after certain verbs require students to memorize a long list of verbs for each verbal complement; however, students are generally not challenged to analyze the context in which each verbal pattern appears to suggest grammatical rules. Therefore, these students attempted to systematically organize the principles governing these specific contexts.

### Task 3

The objective of the third activity was for students to apply the grammar rule that they had suggested in the previous session. While they answered a fill-in-the-blank exercise, a group discussion ensued as the students had to decide whether to use a gerund or infinitive complement. Above all, they had to review their rules to edit them if necessary. In this sequencing activity, students had opportunities to practice with the rules they had previously suggested so that they could internalize the structures and automate the intended collective analysis and reflection.

**Table 7**

*Scores for the fill-in-the-blank exercise*

Team	Score	%
1	41/44	93,18
2	34/44	77,27
3	39/44	88,63
4	35/40	87,5

Note. The maximum of items is not the same since they depend on the time limit.

Own elaboration.

Students took turns rolling the virtual dice and moving back and forth on the board to use the rule they had already suggested. Surprisingly, most teams landed on the same space on the board even though they slid to the bottom of the snakes or climbed to the top of the stairs. As shown in Table 7, teams 1, 2 and 3 managed to answer 44 fill-in-the-blank questions, whereas team number 4 ran out of time on sentence 40. As mentioned above, the goal was not to finish the game but to master the grammar rules by editing and practicing with them. When participants encountered a new context, new rules emerged, and when they encountered similar contexts they edited the rules they already had in case they were missing something.

#### Task 4

The objective of the last task was to answer a test in which, if a sentence was poorly formed, the students had to correct it and justify the error with their own grammatical rules. Gutiérrez (2013) states that explicit knowledge is the knowledge that students are aware of, while implicit knowledge is the knowledge that students have but are not aware of. Consciousness-raising activities where students correct and justify grammatical errors isolate linguistic features, and help students focus their attention on specific data to illustrate explicit rules.

**Table 8**

*Error correction and justification test scores*

Team	Score	%
1	29/30	96,67
2	28/30	93,33
3	26/30	86,67
4	30/30	100

Note. The maximum score in the exercise is thirty (100%).

Own elaboration.

As shown in Table 8, surprisingly, team number 4 successfully responded to the evaluation. They even reacted correctly to distractors. The implication could be that this team took an in-depth look at infinitive and gerund complements and gained a better understanding of these structures. In most cases, participants were able to verbalize the grammatical rules they had suggested before, as they were finally aware of their explicit knowledge of gerunds and infinitives after certain verbs.

**Table 9**

*Descriptive statistics for the error correction and justification exercise*

	Minimum	Maximum	Mean	Standard deviation
Scores	26	30	28.25	1.708

Note. This last task corresponds to the summative evaluation of the intervention.

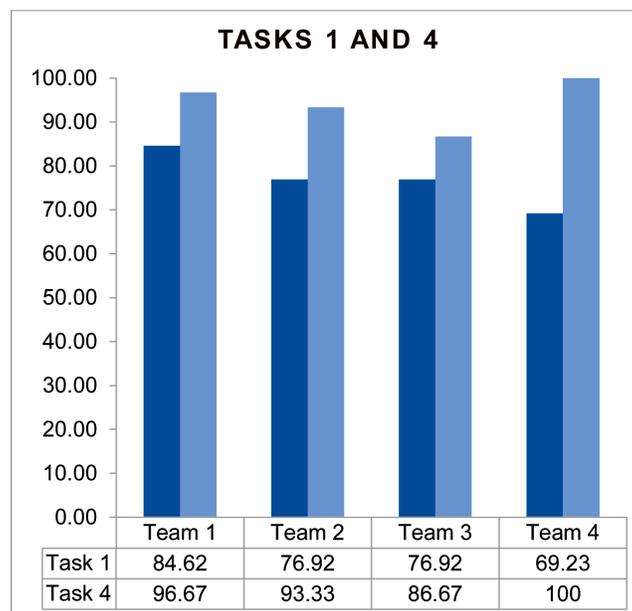
Own elaboration.

Table 9 shows the value of the standard deviation, which is 1.708 ( $\sigma = 1.708$ ). This means that this value is close to the expected score. Therefore, the average of the scores is significant. Finally, the range of the interval between the maximum value and the minimum value shows that there is not much dispersion in the data. As Ellis (2002) suggested, through a combination of consciousness-raising activities and guided collective practice, participants can develop explicit knowledge to fulfill the gap between incomplete understanding of grammatical structures and the intellectual effort required to classify, describe, and articulate rules that describe the language.

The graphic on Figure 3 shows the effect of the reflection and development sessions on metalinguistic awareness of infinitive and gerund complements in L2 in the diagnostic test applied before treatment and the evaluation presented after it. The sequencing of instruction was planned to contribute to the development of the knowledge necessary to engage in authentic communicative exchanges that help students internalize linguistic features.

**Figure 3**

*Evaluation before and after treatment*



Own elaboration.

There is an improvement in the scores obtained by each team. For example, team 1 improved by 12.05%, team 2 by 16.41%, team 3 by 9.75% and team 4 by 30.77%, the latter team being the one that benefited the most from the treatment, apparently. The implication is based on formal instruction in grammar, where consciousness-raising tasks for metalinguistic development are needed to help L2 learners fully understand the underlying grammatical rules rather than memorize linguistic patterns and components.

### Discourse analysis: Levels of metalinguistic awareness

The study explores the development of metalinguistic awareness at five different levels of explicit knowledge about gerund and infinitive complements in English as L2 in Mexican university students. Additionally, the effects of consciousness-raising tasks and stimulated recall interviews were evaluated to demonstrate that participants were able to self-reflect on the underlying structures. In addition to being able to identify correct and incorrect sentences, students could also correct and justify their answers by following the steps shown in Figure 4.

#### Figure 4

*Levels of metalinguistic awareness in the REREACHA*

Level 1: REVIEW	Definition: Traditional explanation of the grammar rule by external agent
	Operationalization: Formal instruction for teaching grammar
Level 2: RESEARCH	Definition: Generate a database with examples of the grammar rule
	Operationalization: List a set of individual and decontextualized sentences in L2
Level 3: ANALYZE	Definition: Work with a set of data and classify according to similarities and differences based on formal criteria
	Operationalization: Inferring Grammar Rules from Examples
Level 4: CHECK	Definition: Check the assumptions about the suggested grammar rule
	Operationalization: Implement the suggested grammar rule on another dataset
Level 5: APPLY	Definition: Metalinguistic description of the underlying rule
	Operationalization: Ability to correct and justify grammatical errors in L2

Own elaboration.

As shown in Figure 4, the first level of metalinguistic awareness development in the REREACHA is referred to as REVIEW. At this stage, the students, together with the researcher, examined the traditional explanations of gerunds and infinitives. This formal instruction in teaching grammar allowed them to remember how they learned infinitives and gerunds, as well as to clarify the doubts their teams had.

The second level in the REREACHA is known as RESEARCH. In this step, the students generated their own database using examples with complements of infinitives and gerunds. Students listed a set of individual and decontextualized sentences in L2 that allowed them to narrow down the verbs they were working with from an extensive list of verbs.

The third level of development in the REREACHA was called ANALYZE. In this stage, students worked with their own data set and ranked their sentences according to similarities and differences based on formal criteria. Students were able to infer their own grammar rules from the examples that they found.

The fourth level in the REREACHA is identified as CHECK. At this level of development, the students were able to verify the assumptions they made about the grammatical rules that they suggested in the previous session. In this sense, they were able to implement their own grammar rules but in another set of data, which allowed them to verify their initial hypotheses.

The last stage on the REREACHA was the level known as APPLY. At this stage, students were able to use their metalanguage to refer to the rules underlying the behavior of infinitives and gerunds. In other words, instead of remembering the lists of gerunds or infinitives after certain verbs, the students demonstrated that they had developed the ability to correct and justify grammatical errors in L2 using a metalinguistic analysis of these verb complements.

**Table 10**

*Percentages of metalinguistic awareness in the REREACHA*

	Metalinguistic awareness tasks (MAT)		Stimulated recall interviews (SRI)		MAT and SRI	
		%		%		%
REVIEW	126	20.86	108	25.29	234	22.70
RESEARCH	73	12.09	96	22.48	169	16.39
ANALYZE	31	5.13	70	16.39	101	9.80
CHECK	188	31.13	46	10.77	234	22.70
APPLY	186	30.79	107	25.06	293	28.42
<i>Total</i>	604	100.00	427	100.00	1031	100.00

Note. These categories are derived from the analysis of the discourse of the participants. Coding framework created with ATLAS.ti.

Own elaboration.

Table 10 shows the speech frequencies of students at each level of metalinguistic development, both in the response-to-task sessions and at the end of the session in the stimulated recall interviews. In total, 1031 sentences were coded, 604 correspond to what happened in the sessions when the students answered the tasks, the rest, 427, correspond to what was transcribed during the stimulated recall interviews.

The highest level for *metalinguistic awareness tasks* (MAT) is the CHECK level with 188 occurrences. This means that the students were able to verify the suggested rules for the infinitive and gerund complements. In the same way, the students were able to edit their rules and integrate new information when necessary. This inductive task was designed to raise students' awareness of the grammatical differences between gerund and infinitive complements.

Regarding the lowest level, the students did ANALYZE very little, 31. It means that they would not consciously verbalize that they were creating their own rules for infinitive and gerund complements since L2 learners generally fail to distinguish between those verb complements. Instead, the students contrasted the uses of a gerund with those of an infinitive, and in doing so, a group reflection and discussion took place.

Regarding the *stimulated recall interviews* (SRI), the highest category was REVIEW with 108, almost like APPLY with 107, whereas the lowest level was CHECK with 46 incidences. During the stimulated recall interviews, students were able to reflect on how they learned infinitives and gerunds as complements. They discussed the way they perceive concepts and how they understand these structures. Throughout the review phase, students made use of their metalanguage to reflect on the traditional explanation and formal instruction of these grammar rules. The memories they evoked generated a discussion about the confusion of verbal complements, the intuitive part between choosing a gerund or an infinitive complement, and the definition and examples of key concepts.

Finally, the lowest level was CHECK, since during the interviews the students did not have the opportunity to verify the effectiveness of their rules. In contrast, the stimulated recall interviews allowed students to demonstrate how insecure they felt in analyzing linguistic patterns to suggest their own grammatical rules. However, participants were able to focus on meaning and form and move from implicit to explicit knowledge even when they were not paying attention.

## FINDINGS AND DISCUSSIONS

Previous studies assess metalinguistic awareness with metalinguistic tests and grammaticality judgments tests, but Schoonmaker and Purmensity (2019) and Woll (2018) concluded that it is necessary to design metalinguistic awareness tasks to balance awareness assessment and grammar acquisition to approach an engaging teaching methodology. In this study, consciousness-raising tasks for the acquisition of gerunds and infinitives after certain verbs were suggested instead of asking students to memorize long lists of verbs. On the one hand, teamwork favors fluid communication that allows ideas to be shared. On the other hand, group reflection enables the linguistic analysis of individual and decontextualized sentences to detect patterns. In other words, reflecting aloud when responding to a grammar awareness task promotes internalization of language structures.

Regarding the implications of a sociocultural framework for the acquisition of gerund and infinitive complements and metalinguistic development, participants were able to rely on cognitive mediation to negotiate meaning and were able to communicate while reflecting on the linguistic features of the L2 to convey new knowledge. Collective consciousness-raising activities are an approach to language teaching that sensitizes L2 learners to the underlying rules.

The first limitation of the study is the selection of main verbs that require infinitive or gerund complements, which was determined by the highest scores on the Corpus of Contemporary American English. Another problem is that some verbs accept both verbal complements with a slight difference in meaning. The second

limitation would be that these participants are all Mexican university students who are learning English as a foreign language, therefore, they live in a non-English speaking country and that could affect their grammatical judgments.

RQ1: Instead of promoting the memorization of main verbs before gerunds or infinitives, this study agreed that teachers should provide students with linguistic data from familiar sources and have them perform certain operations on these language samples to increase awareness. This impacts the development of metalinguistic awareness in scholars in many ways, some of them being the following:

1. Aids instructors in teaching grammar rules.
2. Leads to the conscious use of grammatical rules.
3. Increases students analytical thinking.

In other words, L2 learners can increase their metalinguistic awareness in tasks in which they should identify the underlying structures themselves and collaboratively create their own grammatical rules to foster better understanding. This study examined metalinguistic awareness in gerunds and infinitives after certain verbs and how L2 learners immersed themselves in activities where their cognitive ability was stimulated.

The impact of metalinguistic development on grammar learning leads participants to mediate their performance on consciousness-raising tasks. It was showed that peer verbal interaction guided students to obtain desirable scores when their metalinguistic awareness was measured by detecting and correcting grammatical errors. The general results suggest that the development of metalinguistic awareness facilitates L2 learning.

RQ2: Although many English textbooks promote the memorization of gerund and infinitive complements and present grammar exercises that should be answered individually, there is consensus that group discussion promotes reflection on the conscious use of grammar and that these metalinguistic tasks should be implemented as a strategy for teaching grammar rules. The steps that the participants of this research normally follow when creating their own grammar rules are as follows:

1. They need to review the rules and the key concepts with the help of the teacher to clarify doubts.
2. They must find examples by themselves with the desired grammar rule.
3. Once they have generated their own corpus with isolated and decontextualized sample sentences, they must classify the rules following usage patterns to establish their own grammar rules.
4. They must test their assumptions by trying to answer traditional grammar exercises but with their own rules of use.
5. Finally, students must be able to correct and justify grammatical errors using their own grammatical rules on a different set of data.

Hence, the REREACHA, a model for the development of metalinguistic awareness, indicates that the acquisition of grammar can be promoted by group reflection especially when students solve a linguistic problem. Consequently, negotiation among students will encourage them to analyze data to generate their own grammar rules for future reference. As Lantolf and Pavlenko (1995) state, initially, higher cognitive functions require students to plan, categorize and interpret linguistic data together and subsequently students learn to internalize and apply these strategies on their own.

## CONCLUSIONS AND IMPLICATIONS

Using conversation analysis of audiotaped interactions and stimulated recall sessions, the results showed that students became aware of the use of infinitive and gerund complements after group reflection, stimulated recall interviews and consciousness-raising verbal tasks that require them to analyze patterns. Consequently, group interviews and teamwork could help students reflect on the use of grammar rules in L2 to fully acquire target structures.

Teachers should instruct grammar along with verbal metalinguistic tasks designed to give students the chance to understand grammar rules on their own so that they can be fully aware of the target grammatical feature (Schoonmaker & Purmensky, 2019; Woll, 2018). Collaborative consciousness-raising tasks help students notice linguistic features of the language that they may not notice on their own (Roza, 2014). At first, the participants instinctively choose between an infinitive and a gerund complement, arguing that it sounded good to them for no apparent reason. After the students analyzed sentences to suggest grammatical rules, they were able to justify grammatical errors in different databases. Despite the need for more research, the findings of this study provide deeper insight into how students of English as L2 can develop their metalinguistic awareness to improve their performance in terms of grammar rules for gerund and infinitive complements. Obtaining grammar rules from L2 students helps them to be fully able to determine whether to use a gerund or an infinitive object for the following reasons:

- Students seemed to acquire gerund and infinitive complements by noticing patterns they were unaware of before the group reflection and discussion.
- The students were improving their percentages of correct answers as the didactic sequence advanced to the next stage of analysis and reflection for the creation of rules for infinitive and gerund complements.
- During the warm-up activity, the students were confused when choosing between an infinitive and a gerund, but at the end of the sequence the students demonstrated that they had developed metalinguistic skills for the analysis of these verb structures.
- Although the students searched for examples of gerunds and infinitives that did not come after certain verbs, they were able to spot usage patterns and suggest their own grammar rules.

- The editing and adjustments stage of grammar rules allowed the students to discover other uses and functions for the infinitive and gerund complements.
- In the correction and justification of errors stage, the students were more confident when using their grammar rules.
- The analysis of the participants' discourse will show the different levels that a student of English as L2 goes through when it comes to internalizing the information they receive.

The particular context of the study takes into account the sociolinguistic factors implicated by the impact of metalinguistic skills on the acquisition of grammar, as it gradually emerges when students attempt to monitor their performance on English language proficiency tasks in which they need to communicate to solve linguistic problems. The degree of metalinguistic awareness presented in this research describes a framework in terms of cognitive demands for language analysis and knowledge of grammar to control the processing of gerund and infinitive complements in L2.

In conclusion, by negotiating new information, a more capable student can help another disadvantaged student to understand the underlying patterns of a grammatical structure to infer usage patterns, as established by Vygotsky's sociocultural theory, where social mediation between what students already know and what they discover throughout group reflection and discussion (Shabani, 2016) is essential for cognitive development and the teaching of grammar.

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