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How L2 English high-school students learn modal auxiliary verbs: the abnormal time reference and the stereotyped uses of English modals

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ABSTRACT

English modal verbs are widely known as those auxiliary verbs that present specific syntactic and semantic properties in comparison to the rest of English verbs. This study investigates how L1 Spanish 1st and 2nd year high-school students who are studying English as a second language (L2) relate these auxiliaries to the reference of time and how the stereotyped uses of modals influence on the interpretation of this relation and on the understanding and learning of English modals. The analysis of the collected data shows that most 1st and 2nd year high-school students (1) identify adequately the past and non-past time reference expressed by modals, although they show to have some difficulties with some specific modals, and that (2) they evidence a preference for stereotyped meanings and structures when dealing with the interpretation of these auxiliaries.

Keywords: English modals, modality, Spanish students of English, stereotyped uses, time reference.

Los verbos modales en inglés son conocidos comúnmente como aquellos verbos auxiliares que poseen características sintácticas y semánticas específicas en comparación con el resto de los verbos de la lengua inglesa. Este trabajo investiga cómo los estudiantes nativos de español de 1° y 2° bachillerato que estudian inglés como segunda lengua relacionan estos auxiliares con la referencia de tiempo, y cómo los usos estereotipados de los modales influyen tanto en la relación modales- referencia temporal como en el entendimiento y aprendizaje de estos verbos. El análisis de los datos revela que la mayoría de los estudiantes de 1° y 2° bachillerato (1) identifican de forma adecuada la referencia del tiempo pasado y no pasado en las oraciones modales aunque tienen dificultades con la interpretación de algunos modales concretos, y que (2) existe cierta preferencia por los significados y las estructuras estereotipados cuando se interpretan estos auxiliares.

Palabras clave: verbos modales, modalidad, estudiantes españoles de inglés, usos estereotipados, referencia de tiempo.

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1. Introduction

This work focuses on the core element of any verb phrase, that is, the verb itself, and more specifically on one type of English auxiliary verbs –modal verbs, and how these auxiliary verbs are related to morpho-syntactic and semantic categories (i.e. tense, time, and modality) within the English language. This relation in combination with the stereotyped uses of the English modals will be put in perspective with a specific educational context in which a group of students (high-school students) will reflect their knowledge on these complex verbal structures.

Our work proceeds as follows: In section 2, the main characteristics of the English modals, including the syntactic and the semantic properties, are presented. In section 3, the relation between these auxiliary verbs and the category of tense, with a due consideration on the past time reference, will be discussed, focusing on two modal pairs (*can-could* and *may-might*) and the only modal that appears despaired (*must*). In section 4, the participants of the study are presented together with the educational context where they study and the two L2 English high-school textbooks the participants use as references for studying English modals. The main aim of this work is presented in section 5, while the methodology designed for this work is included in section 6. In section 7, the results derived from the tasks presented in the methodology are discussed, and in the last section, section 8, the main conclusions are presented.

2. English modals: Their main syntactic and semantic properties

English verbs can be classified into two main categories: lexical (e.g. *eat*, *play*, *work*, *etc*.) and auxiliary verbs (or auxiliaries) which comprise two major classes –primary auxiliary verbs (i.e. *do*, *be*, *have*) and modal auxiliary verbs, that can be either central (i.e. *can*, *could*, *may*, *might*, *shall*, *should*, *will*, *would*, *must*) or semi-modals (e.g. *ought to*, *dare to*, *need to*, *etc*.). The most relevant syntactic and semantic characteristics that evidence the differentiation between both main categories will be discussed throughout this section.

2.1 Syntactic properties of English modal auxiliaries

At the syntactic level, lexical verbs differentiate from auxiliaries by the specific syntactic functions each category complies within the English verb phrase. As for the lexical verbs, they act as headwords on finite verb phrases, as in example (1), while auxiliaries, primary auxiliary verbs and modal auxiliary verbs¹, support lexical verbs to form complex verb phrases, as in (2a) and (2b).

- (1) I eat fruits everyday
- (2) (a) *I don't like* chocolate bars(b) You could have told me about it

In contrast to primary auxiliaries, which are able to function as both lexical, as in (3a), and auxiliary verbs, as in (3b), modal auxiliaries can only function as auxiliaries always in the presence of lexical verbs to provide information about grammatical aspects such as tense, aspect, or modality (Klammer et al. 2013), as in (4) where the modal verb *must* expresses a high degree of certainty and, together with the primary auxiliary verb *have*, locates the event in a past time-sphere.

- (3) (a) *I have* a lot of homework
 (b) *I haven't played* tennis since *I* was six years old
- (4) Jamie must have overslept

¹ The semi-modal verbs (e.g. *dare to, need to, ought to, etc.*) are not included in this description since they fall out of the scope of this study.

As mentioned above, the combination between auxiliaries and the lexical verb itself can form complex verb phrases, leading to some English verb phrases being more complex than others, indicating then the possibility of including only one auxiliary verb, as in (5a), or more than one, as in (5b).

(5) (a) *I* must talk to him(b) The concert should have been starting by now

As for the English auxiliaries, also known as 'helper verbs' (Declerck 2006: 19), they have the optionality to be or not to be present in the verb phrase: if present, they have to be placed according to a fixed order of verbs within the English verb phrase (Declerck 2006; Quirk et al. 1985; Huddleston 1988, among others), where modal auxiliaries occupy the first auxiliary position, followed then by the primary auxiliaries (*have* and *be*), and finally by the lexical verb, as shown in Table 1.

Table 1. Fixed order of the English verb phrase							
	Lexical verb						
Modal	Perfect (have)	Progressive(be)	Passive (be)				
must	have have	been		driving told			
may			Be	observed			

As illustrated in (5a), a modal auxiliary can be followed by an infinitive verb form or by a primary auxiliary, as in (5b). While Table 1 shows the possible combinations between auxiliaries and the lexical verb itself, Table 2 points out the most relevant morphosyntactic properties of the English modals highlighting those previous combinations (modals plus bare infinitives and modals plus primary auxiliaries).

Table 2. Morpho-syntactic characteristics of English modal auxiliaries (adapted from Quirk et al. 1985)				
Characteristics of modals	Modal auxiliaries	Lexical verbs		
Bare infinitives	I can swim	*I hope swim		
No non-finite forms	*to can/ *canning/ *canned	to hope/ hoping/ hoped		
No –s form	* he cans swim	She hopes to swim		
Abnormal time reference	Mary could leave this evening [non-past time] I could swim when I was younger [past time]	Mary lives in Leeds [non-past time] Mary lived in Leeds [past time]		
No co-occurrence	*I may must train for the competition BUT: I may have trained for the competition	They hope to have finished for the 2015 season		

Among the characteristics of English modals (shown in Table 2), the 'abnormal time reference' (Quirk et al. 1985: 137) seems to be the more debatable issue among grammarians (Quirk et al. 1985; Klammer et al. 2013; Biber et al. 2002, among others). As we will discuss in section 3, this peculiarity of modals when referring to time may be due to a relation between the reference of time and the form and meaning of modals, that is, to a relation between the past tense modals (*could, might, would, and should*) and a past time-sphere, and the present tense modals (*can, may, will, and shall*) and a non-past time-sphere, which is not always a one-to-one correspondence (e.g. as shown in Table 2, *could*, formally classified as a past tense modal, can refer to a non-past event).

In order to take into account the semantic dimension in this debate, in the following section, we will deal with the inherent meanings expressed by modal auxiliaries.

2.2 Semantic properties of English modal auxiliaries

As lexical verbs belong to an open class of English words characterized by being semantically richer than auxiliaries for expressing a larger set of concepts; auxiliaries, as they belong to a closed class of English words, are characterized by a semantically limited property for expressing specific meanings (Declerck 2006). Taken this into consideration, the expression of these specific meanings is mainly achieved by the use of the English modals, which are the most relevant auxiliaries from a semantic viewpoint, as they add significant shades of meaning to the English verb phrase.

At the level of semantics, English modals are associated to the category of modality² which is understood as "the representation of situations as non-factual, that is, as possible or necessary (or impossible or unnecessary), hypothetical or counterfactual" (Depraetere and Langford 2012: 195), being only possible to express modality verbally by the use of the modals which by their inherent meanings can indicate possible or necessary situations. In other words, modality can be broadly defined as the meaning expressed by the use of modals (Huddleston 1988: 165).

² Throughout this paper, the expression of 'modality' will be treated as a verbal property, that is, expressed by the use of the English modal auxiliaries rather than by the use of adjectives (*likely* or *possible*) or adverbs (*perhaps* or *maybe*) which also indicate non-factual situations.

In this sense and focusing on modality as a semantic category, the different meanings expressed by these auxiliaries are associated with two main types of modality – epistemic modality (possibility and necessity) and deontic modality (permission, obligation, and ability) (Depraetere and Langford 2012).

Epistemic modality is defined as the manner of expressing the meaning of a verb phrase reflecting the speaker's judgment on the likeness of the 'proposition' (Quirk et al. 1985: 219) that it states being true, and more specifically, when the speaker concludes that a situation is either possible or necessary from what he/she has evidenced (Quirk et al. 1985; Depraetere and Langford 2012); deontic modality is used when the speaker indicates that "it is necessary or possible for a situation to occur or that it is necessary or possible for someone to do something" (Depraetere and Langford 2012: 210). The different meanings associated with these types of modality are shown in Table 3³.

Table 3. E	Table 3. Epistemic and Deontic modality using English modal auxiliaries				
	Epistemic	Deontic			
Possibility	CAN	CAN			
	You can buy cheap clothes on sales (It is	You can have a piece of cake (permission)			
	possible for you to buy)	I can speak French (ability)			
	COULD	COULD			
	We could be going tomorrow (perhaps)	On weekends, we could stay in bed until 12			
		(permission in the past)			
		Could you lend me a pen? (polite-			
		permission)			
		I could speak French when I was 6 years old			
		(ability in the past)			
	MAY	MAY			
	<i>You may be right</i> (remote possibility)	You may take as many cookies as you want			
		(polite permission)			
	MIGHT	MIGHT			
	You might be right (more remote	Might I see the book, please? (polite			
	possibility)	permission)			
Necessity	MUST	MUST			
	He must be John's grandfather (deduction/	You must submit assignment 4 by next			
	certainty)	Friday (obligation)			

³ Since in this paper we only focus on specific modal verbs (*can, could, may, might,* and *must*), Table 3 will provide the classification of the two types of modality taking into account these modals.

As illustrated in Table 3, we can refer to each type of modality depending on the meaning it is expressed when using modals, as in example (6a), where the modal *can* indicates that the speaker has used his knowledge to conclude that 'buying cheap clothes on sales' is possible, expressing, in this sense, epistemic modality; or as in (6b), where the same modal indicates that it is possible for someone to do something (e.g. 'allowing that person to have a piece of cake') expressing, in this case, deontic modality.

(6) (a) You can buy cheap clothes on sales (possibility –Epistemic modality) (b)You can have a piece of cake (permission –Deontic modality)

The same occurs with the modal *must* which expresses epistemic modality when the speaker reflects a deduction from what he has evidenced, as in (7a), or deontic modality when it is expressed that it is necessary for someone to do something, as in (7b).

(7) (a) *He must be John's grandfather* (deduction –Epistemic modality)
(b) *You must submit assignment 4 by next Friday* (obligation –Deontic modality)

As for the relation between both types of modality and time reference, the epistemic and the deontic uses of English modals are usually associated to either non-past time and past time situations, although there is usually a close relation between epistemic modality with non-past time situations (e.g. *You can buy new clothes on sales*) and deontic modality with past time situations (e.g. *I could speak French when I was 6 years old*). However, this is not always the case, as evidenced in example (8) where the past tense modal *could* in a deontic construction does not make reference to a past time situation, but rather to a present time one, confirming by this peculiarity that the reference of time and the form of modals seems to be a debatable issue.

(8) *Could I use your phone?* (non-past situation)

As part of this debate, Huddleston (1988: 170) states that either type of modality (epistemic and deontic) involves the expression of a present time utterance by a speaker who is indicating an opinion or imposing an obligation at the time of speaking, so that, the meanings expressed by modals should be placed in a present time-sphere as the speaker is expressing a present time utterance. However, at the same time, Huddleston (1988) affirms that the time reference in a prototypical deontic modality should involve future time, as in (9), expressing in this sense that the action should take place after the obligation is imposed (9a) or the permission is granted (9b).

(9) (a) You must submit assignment 4 by next Friday (obligation)(b) You can have a piece of cake now or later (permission)

Huddleston (1988) then does not state clearly if the expression of time by modals involves present or future time, or rather, if he is dealing with the concept of time at the moment of speaking or when the action or event expressed by the lexical verb will (or will not) take place.

At the same time, the relation between time reference and epistemic modality seems to be slightly different, as the epistemic modality refers to a current expression of an opinion involving a present time reference, as in (10a); but, if the speaker expresses a remote possibility, it can be related to a future time reference, as in (10b), being indirectly relating specific time references to each type of modality.

(10) (a) Now, you can have a piece of cake (present possibility) (b) We could go tomorrow (future possibility)

As part of this controversial issue between modality and time reference, it is unavoidable to refer to the contribution on the part of modals to the expression of tense in the verb phrase. That is, are modals inflected for tense, and therefore, can they express time?

3. English modals and tense relation

Although historically, modals have been presented as 'past' and 'non-past' tense forms (*can-could, may-might, shall-should, will-would,* excepting *must*) (Quirk et al. 1985; Declerck 2006, among others), there has been a relevant debate in the last decades dealing with the possibility of using those past tense modals mainly to achieve specific semantic purposes, as for the expression of specific meanings, which are related to the semantic category of modality rather than indicating time references (Depraetere and Langford 2012: 196), as pointed before.

The starting point of this debate may lay on the lack of unanimity among grammarians when considering if modals are tensed or non-tensed elements. More specifically, Quirk et al. (1985), Huddleston (1988) and Declerck (2006) argue that modals are morphologically tensed elements within the English verb phrase while Biber et al. (2002) and Klammer et al. (2013) refuse this view.

In order to classify modals as tensed or non-tensed elements, the definition of this category should be quoted. In the English language, the category of tense can be described as the combination of a morpho-syntactic form with a meaning, "being the meaning the specification of the temporal location of a situation" (Declerck 2006: 94). The contrast between morphology, that is, the verb tense form, and semantics, the temporal meaning, should be clearly distinguished in order to understand the relation between past and non-past tense forms of modals with their respective time references (Biber et al. 2002).

Both groups of grammarians (those against the inflection of tense on modals vs. those supporting it) base their theories on the properties of modals to present their viewpoint on this debatable topic. Firstly, the former group of grammarians (Quirk et al. 1985; Huddleston 1988; Declerck 2006) affirms that English modals occupy a position within the finite verb phrase, indicating in this way that English modals inflect to show tense; considering tense as a mandatory category in any finite verb phrase without the optionality to be present or not –all finite verb phrases, simple or complex, must be marked for tense. In this respect, it is the first auxiliary verb, and more specifically English modals, that mark tense, and not the lexical verb itself, which is placed at the end of the phrase (Declerck 2006) (see Table 1, section 2.1).

Opposing to this viewpoint, the latter group of grammarians, Klammer et al. (2013) and Biber et al. (2002), states that certainly what it first appears within the fixed order of the finite verb phrase is inflected for tense, with the exception of modals. These grammarians argue then that modals are non-tensed elements due to their inability to take inflections for indicating 3^{rd} person agreement, past tense, progressive (-ing), and non-progressive (-ed) verb forms as lexical verbs (see Table 2, section 2.1). Based on these specifications and assuming that English modals appear in a single uninflected form, Klammer et al. (2013) propose that all modal auxiliaries are present tense forms, as in examples (11) where, according to these grammarians, the lexical verb *rain* is inflected for present tense, as in (11a), while it is not in (11b), but since it is preceded by *might*, this modal provides the tense specification, that is, present tense as well.

(11) (a) *It rains* (present tense)(b) *It might rain* (present tense)

One possible cause for this controversy may be that traditionally only two tense markers can occur in the English verb phrase –present and past; however, three forms of expressing time reference are distinguished –present, past, and future (Biber et al. 2002), arising, in this sense, the dispute as time and tense do not always coincide (Biber et al. 2002).

The former group of grammarians points out that past tense modals do not only express past time events, as shown in (12a), but also non-past time events, as in (12b); while the latter group of grammarians would indicate that the modal in (12b) expresses present time as the rest of modals, leaving the expression of past time to the primary auxiliary verb *have*, as in (12c).

(12) (a) On Sundays, we could stay in bed until 12 (past time event)
(b) Could you open the window? (non-past time event)
(c) You could have bought that dress on sales (past time event)

In spite of this disagreement, some other grammarians, like Dekeyser et al. (2011) and Depraetere and Langford (2012), hold a neutral point of view stating that 'past modals' exist; however, "these past tense forms indicate modality, and not past time" (Dekeyser et al. 2011: 99). Accordingly, the modal auxiliary *might*, as a real past tense form of *may*, is almost exclusively found in indirect speech or reports, as in (13), where *may* is changed into its past tense form (*might*) as required to form indirect speech sentences.

(13) I asked her if I might use her telephone (Dekeyser et al. 2011: 106)

However, apart from this use, *might* is not commonly used as an indicative of a past time reference, but rather as an indicative of a hypothetical possibility, referred to epistemic modality, or formality and politeness, related to deontic modality (see Table 3, section 2.2).

As already discussed, it is debatable that modals inflect for tense, but what seems to make no contradiction is that they can combine with aspect and voice (Biber et al. 2002: 183), as shown in the following examples in (14).

(14) (a) modals with perfect aspect (modal + have + ed-participle)
 He might have missed his departure from England to Spain

(b) modals with progressive aspect (modal + be +ing-participle) *He may be studying for the exam*

(c) modals with passive voice (modal + be + ed-participle) *The methods could be refined to produce better results*

The combination of modals plus perfect or progressive aspect can clarify the time reference on complex verb phrases, due to the time expression included on each aspect. In this respect, Huddleston indicates that the perfect aspect contains what is called as 'inclusive past' (1988: 158) because it expresses a situation that had started in the past but extends to the present, as shown in example (14a), where the event (e.g. *the miss of the departure*) had occurred in the past but still has a current relevance. On the other hand, the progressive aspect reflects a sense of incompleteness focusing on a specific interval of time, as shown in (14b), where the event (e.g. *studying*) shows an ongoing situation at the moment of speaking, locating then the event in a present time-sphere. The last example, (14c), evidences that modals and the category of voice can also interact as modals and aspect do.

Therefore, although some grammarians classify most of the modals as past and non-past tense forms, these modals do not always locate situations in a past and non-past timesphere by themselves, but 'helped' by primary auxiliary verbs. In the following section, we will focus on the viewpoint of the former group of grammarians who affirms that modals inflect for tense, showing their points in common with those grammarians who adopt the neutral viewpoint already discussed.

3.1 Modals and Past tense

As a result of the controversy discussed above, some grammarians (Quirk et al. 1985; Huddleston 1988, among others) have shown their preference to group modals into pairs (*can-could, may-might, shall- should, will-would*, excepting *must*) distinguishing past and non-past tense forms: "*could, might, should* and *would* are morphologically past tense forms of present *can, may, shall* and *will*" (Depraetere and Langford 2012: 196), being these past modals not usually located in a past time-sphere. However, as Quirk et al. (1985) and Biber et al. (2002) point out, since there is no need for tense and time reference to always coincide, it is not rare to find some past modals expressing present (as in (15a)) or future time events (as in (15b)), especially in hypothetical or polite situations (as in (16a) and (16b) respectively).

- (15) (a) Tom might be cooking right now (past form -present time reference)
 (b) I could come tomorrow morning if you want (past form -future time reference)
- (16) (a)*Take the umbrella, it might rain later* (past form –hypothetical situation)
 (b) *Could* you please lend me a pen? (past form –polite request)

The controversy again reappears because *could* can certainly be used as the past time equivalent of *can*, as in (17a), but, *might* cannot be used as that of *may*, as in (18b).

- (17) (a) *I can swim very well* (present tense form –present time reference)
 (b) *I could swim very well at the age of five* (past tense form 'past time equivalent')
- (18) (a) *I may leave early today* (present tense form present time reference)
 (b) **Yesterday*, *I might leave earlier* (past tense form '*past time equivalent')

Notice that in the case of a past hypothetical sentence, the perfect aspect needs to be combined with the modal itself, as in (19), showing the 'inclusive past' (Huddleston 1988: 158) of a situation. This demonstrates that the perfect aspect is closely related to the category of tense when referring to the past.

(19) If Leicester could have won that game, they might have become league champions (past modals plus have +ed-participle to express a possibility in the past)

For different reasons, with a particular interest in the reference of time, the epistemic and deontic uses of the English modals cannot be explained by the mere combination of modals plus tense (Huddleston 1988), but more elements in the verb phrase must be taken into consideration, as perfect aspect, adverbs or subordination of past phrases in order to emphasize on the expression of time. This is one of the reasons used by the latter group of grammarians (Klammer et al. 2013 and Biber et al. 2002) when they affirm that English modals are mainly used to express modality rather than time meanings; the opposite view supports the distinction between the morpho-syntactic category, referred to the tense marker on modals, and the semantic category, referred to modals. In the following sections, we will profound on this debatable topic, focusing on specific pairs of modals.

3.2 Non-past vs. Past modals

As noted throughout section 3, the traditional pairing between past tense modals and past time reference does not always fit together, as 'past modals' can be found in non-past time situations. For this reason, and according to the proposals put forward by Klammer et al. (2013), the modals *could, might, should,* and *would* are currently not considered past tense forms of *can, may, shall,* and *will,* respectively, but rather, present tense forms that indicate modality rather than time references. However, Dekeyser et al. (2011) and Depraetere and Langford (2012) hold a neutral viewpoint considering *could, might, should,* and *would* as past tense forms (not present forms), also known as 'modals past' (Dekeyser et al. 2011: 99), which certainly do not indicate past time but rather modality. In order to evidence one viewpoint or the other in the relation of modals with the expression of time, the different semantic concepts expressed by specific modals (*can, could, may, might,* and *must*) will be explained in the following section, referring to each of their uses, with a particular attention to those non-past uses of the traditionally classified as past modal forms.

3.2.1 Can vs. could

Among the polysemous uses of these modals, the three semantic concepts that can be expressed by the use of *can* and *could* are –possibility, permission, and ability (Quirk et al. 1985: 221-222). On top of this, and taking Table 3 in section 2.2 as a point of

reference, each of these meanings can be grouped into a type of English modality; and more specifically, the epistemic modality would be fulfilled by the modals *can* and *could* when expressing possibility (20-21) and the deontic modality fulfilled when these modals express ability and permission (22-23).

- (20) You can buy cheap clothes on sales (It is possible for you to buy ...)
- (21) We could go tomorrow (possibility)
- (22) (a) *I can speak French* (ability)
 (b) *You can have a piece of cake* (permission)
- (23) (a) *Could* you lend me a pen? (polite permission)
 (b) *I* could speak French when *I* was 6 years old (ability in the past)
 (c) On weekends, we could stay in bed until 12 (permission in the past)

As for the deontic modality, the different uses of the modal *could* do involve non-past time reference, as shown in example (23a), especially, in request constructions expressing formality and politeness. However, the past time reference is also covered by this modal which by its own form and meaning can express 'ability in the past' (as in (23b)) and 'permission in the past' (as in (23c)). For this reason, it could be argued that *could* would prove to be the 'real past tense' (Dekeyser et al. 2011: 111) of the modal *can* and not only in indirect speech. Therefore, it could be said that, contrary to what may happen with other modals, *could*, as a deontic modal, is able to express past time by its own, without being combined with aspect to denote a specific tense.

By contrast, in the same way the modal *can* is used for expressing 'ability' (as in (22a)), and 'permission' (as in (22b)) in the present, the present time reference of *could* can also be easily detected on constructions that express present time permission usually associated to polite requests (as in (23a)). However, there can be an overlapping between *can* and *could* when expressing 'permission' in present time, being the difference that *could* expresses a greater level of formality than *can*.

As an epistemic modal, *could* usually indicates present (as in (24a)) and future time references (as in (24b)).

(24) (a) That could be John's grandfather
(b) If the weather is suitable, we could exercise tomorrow at the beach (perhaps)

The election of one of these two time references (present or future) does not have anything to do with the form of the modal *could*, but rather with the semantic category of modality. The main differentiation between the epistemic uses of the modals *can* and *could* is usually related to the level of probability, being *can* the modal that expresses a more probable option to occur and *could* a less probable option (Dekeyser et al. 2011).

As mentioned before, in order to make reference to the past time, the combination between perfect aspect and modals is highly used. In this sense, the epistemic constructions differentiate from the deontic ones by their indispensable use of the perfect aspect to indicate past time. While in the deontic uses, *could* can refer to the past by itself, as in 'permission in the past' (as in (23c)) and 'ability in the past' (as in (23b)), the epistemic uses of *could* can make reference to present (as in (24a)) or future time events (as in (24b)). In this respect, the perfect aspect is excluded when these modals express 'ability' and 'permission' (Quirk et al. 1985: 232), but it is required to be combined with the past tense modal *could* in order to speculate about a past time event, not necessarily communicating that the possibility is no longer open, as in (25a), or "to express reproach", considering that the "harm has been previously done" (Dekeyser et al. 2011: 109), as in (25b) where the event is also located in the past time-sphere.

(25) (a) *Tom* could have eaten all the meal (It was possible for Tom to eat all the meat, but he didn't do it or it is possible that he ate it all)

(b) *You could have told me in time you were not coming* (It was possible for you to tell that you were not coming, but you didn't)

The fusion between perfect aspect and modals is not always possible, as it occurs with the modal *can* which does not have the ability to express a past time possibility even if it combines with the perfect aspect itself (e.g **You can have told me in time you were not coming.*), but in order to locate the possibility meaning in a past time-sphere, the modal *can* must be replaced by its past tense modal *could* (e.g. *You could have told me in time you were in time you were not coming.*) to express a past epistemic modality.

Despite of this statement, the modal *can* behaves differently in negative constructions: it is possible to combine *can't* with the primary auxiliary verb *have* for expressing "the negation of a logical deduction about the past" (Dekeyser et al. 2011:109), as shown in example (26), being this combination closer in sense to the modal *must* ('you **must have done** *it quickly*') apart from reflecting a past time reference.

(26) You can't have done it so quickly

As *could* can be used as a real past tense form of the modal *can*, and therefore as a real past time indicative in some situations ('ability' and 'permission'), it is tempting to conclude that the second modal of each modal pair (*can-could, may-might, will-would, shall-should*) is the past tense form of the first and, consequently, past time indicative as well (Dekeyser et al. 2011: 196). In order to check out if this is so, in the following section we will discuss about the uses of other modal pair *-may/might*.

3.2.2 May vs. might

The modals *may* and *might* differ from *can* and *could* by the number of semantic concepts they can express (Dekeyser et al. 2011), some of them being already presented in Table 3 (see section 2.2). Despite this, the two possible meanings expressed by the use of *may* and *might* coincide with two of the meanings that *can* and *could* express – 'possibility' and 'permission' (Quirk et al. 1985: 223-224). As in the case above, each meaning refers to each type of modality, referring to the epistemic modality, when these modals express 'possibility', and deontic modality, when they express 'permission'.

As for the epistemic modality, the election between the modal *may* or *might* does not actually involve the expression of a possibility within a present time-sphere or a past time-sphere respectively. The use of both modals for the expression of a present time possibility is acceptable, simply denoting a higher or lower degree of tentativeness: the expression of a higher degree of tentativeness would be fulfilled by the use of *might*, as in example (27), and of a lower degree of tentativeness by *may*, as in (28).

- (27) *You might be right* (past tense form present time reference)
- (28) You may be right (present tense form present time reference)

As in the epistemic constructions with *can* and *could*, the constructions with *may* and *might* do not actually make a time distinction between present and past time respectively; in fact, the future time can be involved in this type of constructions, being reflected by the level of tentativeness expressed by the speaker who uses these modals, as in (29a) and (29b).

(29) (a) *It may rain tomorrow* = It <u>is possible that it rains tomorrow</u>
(b) *It might rain tomorrow* = It <u>is possible that it rains tomorrow</u>

In this sense, the modal *might* is used for simply denoting a more hypothetical possibility than *may*, without making any reference to the past time; not being then *might*, in these cases, the past tense form of *may*. However, in order to make reference to the past, it is necessary to use the perfect aspect together with these modals, as shown in examples (30a) and (30b) where the possibility meaning has been located into a past time-sphere.

(30) (a) You may have done it earlier(b) You might have done it earlier

In contrast to the former modals, affirmative *can* could not combine with perfect aspect, leaving the opportunity to express past time possibility to *could* plus *have* + *ed*-participle, both modals are able to combine with the perfect aspect being grammatically accepted. However, both combinations differ semantically relying again on the level of tentativeness (and then modality, not tense), being *may* plus perfect aspect, as in (30a), like a suggestion that an event would have been possible to do if it had been the case, and *might* plus perfect aspect, as in (30b), simply the expression of a past time possibility, as *could* with perfect aspect indicates (e.g. *You could have done it earlier*).

As for deontic modality, the election between *may* or *might* neither do express permission in a present time-sphere or past time-sphere, respectively. In this specific case, the use of *might* or *may* simply denotes a higher or lower degree of formality and politeness: being *may*, as in (31a), more formal than *could* (as in (31b)), and the modal *might* (31c) even more formal than *may* and *could*.

(31) (a) May I see the letter, please?
(b) Could I see the letter, please?
(c) Might I see the letter, please?

As it was argued above, *might* is rarely found in contexts where the deontic modality makes reference to the past time (Huddleston 1988), which clearly differentiates from *could* that certainly does ('permission' and 'ability' in the past). Normally, the time reference that is usually involved in the deontic use of *might* is present or future time, while the time reference that is involved in *could* is present or past time, being *could* in this sense and in contrast with *might*, maybe the only modal that can be inflected by itself to express past tense.

However, it could be argued that *might* as well can be used as the past tense of *may* in one exclusive context (Dekeyser et al. 2011; Quirk et al. 1985): when it is used in indirect speech, as in (32), being in this case then expressing not only modality but also past tense like *could*.

(32) I asked him if I might see the letter

Despite this, it would be not clear what is marking the past time in this case, if the reported speech lexical verb or the modal of the subordinate 'proposition' that has to adjust to the temporal viewpoint marked by this reporting verb (e.g. *asked*). Therefore, and as evidenced, at least with *might*, the form of modals does not always have to coincide with the time meaning these auxiliaries express, as supported by the former group of grammarians.

3.2.3 Must

Like the pairs of modals covered so far, the modal auxiliary *must* is also polysemous since it can express two types of modal meaning –certainty (also refer as 'deduction') and obligation (Quirk et al. 1985: 224-225). Despite each meaning refers to each type of modality, epistemic and deontic modality respectively, the meanings expressed by *must* differentiate from the previous ones by the expression of necessity rather than possibility (see Table 3, section 2.2).

In addition to the above, another peculiarity about this modal is its unique form that leads to conclude that the modal *must* lacks a past tense form, in comparison, to the rest of the English modals which have been traditionally grouped into pairs showing tense distinction (*can/could, may/might, etc.*) (Quirk et al. 1985; Huddleston 1988, among others).

According to some grammarians, such as Quirk et al. (1985) and Huddleston (1988), *must* can be found in past and non-past time contexts, as evidenced in examples (33), where the auxiliary *must* expresses 'obligation' in a non-past time-sphere (as in (33a)) and 'deduction' in a past time-sphere (as in (33b)). However, as in the case of *might*, it is not clear if the expression of past time is marked by the reporting verb in the indirect speech construction (e.g. *reported*) or by the modal *must*, which in this specific case has only one form.

(33) (a) You must see the dentist tomorrow (non-past time reference) (b)The police reported that these two young boys must be the responsible for this crime (past-time reference)

Opposing to that point of view, other grammarians (Biber et al. 2002; Klammer et al. 2013) treat *must* as the rest of the English modals, that is, a present tense form that does not involve the expression of time but rather of modality, stressing that time references cannot be indicated by the modal auxiliary *must* itself, but rather by the adverb '*tomorrow*' in (33a) or the past tense form of the reported speech lexical verb in subordinated clauses, as '*reported*' in (33b), or by the use of the primary auxiliary verb *have* in perfect constructions, as shown in (34).

(34) You must have sent me an e-mail before coming to my office (obligation)

Relating all this with English modality, the only time reference that should be involved when using *must* is present time, as both types of modality ('deduction' and 'obligation') express a present time utterance pronounced by a speaker who is expressing a deduction or imposing an obligation at the time of speaking. However, if the speaker would like to locate the deduction (epistemic modality) in a past time-sphere, the primary auxiliary verb *have* is needed to combine with the modal *must* in order to express a past time event, as shown in (35).

(35) *Jamie must have overslept* (past time deduction)

Referring to the other semantic concept of *must* (i.e. 'obligation'), the temporal reference that is usually involved on this deontic modality is non-past time, as shown in (36a).

(36) (a) You must submit assignment 4 by Thursday (b) You must have submitted assignment 4 by Thursday

However, if the speaker would like to point out an 'obligation' in a past time-sphere, the perfect aspect can be used in combination of this modal, as shown in (36b), since the modal *must* cannot express present or past time references on its own.

As evidenced throughout this section, although some grammarians (Biber et al. 2002; Klammer et al. 2013) argue that modals cannot express time references on their own, and this is why they have to combine with the primary auxiliary verb *have* to express past time reference, it seems that some other grammarians (Quirk et al. 1985;

Huddleston 1988), who state instead that they can be used in past and non-past contexts, base their argumentation on more solid evidences: as shown in subsections 3.2.1-3.2.3. Modals such as *can, may* or *must* cannot express other tense than present by themselves, while other modals such as *could* or *might* can be used in certain contexts to express past tense by themselves in either deontic or epistemic uses ((deontic modality ('permission' and 'ability' in the past) in the case of *could* and epistemic modality together with the past tense of a reported speech lexical verb, in the case of *might* and also *could*). Therefore, these modals in those contexts are not only able to express tense (past tense) but also modality ('permission', 'possibility', 'ability', etc.) at the same time.

This debatable combination between tense and modality on the part of some modals in specific contexts may also extend to the way L2 English students learn this type of structures. In the following section, we will deal with how modals are taught to Spanish high-school students of English in a specific academic context so that we can observe if this lack of unanimity among grammarians when dealing with the tense and modality of the English modals is reflected in the difficulties these L2 English students may have when learning modals.

4. Teaching modal auxiliaries to L2 English high-school students

English modals are initially taught to L2 English high-school students as those auxiliary verbs that have some syntactic and semantic peculiarities. Due to their complex behavior, the English modals are introduced to students little by little. Therefore, through their first four years of secondary education (from 1st to 4th year of secondary education), students are gradually taught a couple of new modals (during 1st year: *can/must*; 2nd year: *can/must/could/should*; 3rd year: the previous modals plus *mustn't/have to*; 4th year: previous modals plus *may/might*), leaving to the end the more complex verbal combinations (modals with passive voice and modals with perfect and progressive aspect) which are studied during the last two years before graduation (1st and 2nd year of high-school education).

In comparison to the traditional way of teaching English modals, which was characterized for presenting them grouped into pairs distinguishing the non-past forms from the past tense forms, the current way of teaching English modals to L2 English high-school students in Spain seems to follow a different pattern: all modals are presented as present tense forms that need to be combined with the primary auxiliary verb *have* in order to make reference to the past time (except for deontic *could* –'ability' in the past).

Reasonable advances in the way of teaching English have taken place in the last few years; however, L2 English high-school textbooks still provide stereotyped uses of modals and they do not provide students an adequate explanation about the polysemous uses of the English modals and their relation with time reference. One case in point are two L2 English high-school textbooks used by students who are taking their last two years of high-school education in *I.E.S Juan de Juni* from Valladolid (Spain) which will be analyzed in this section: *In Gear 1* (2010) and *In Gear 2* (2011).

Firstly, focusing on the English textbook *In Gear 1* (2010) used by the students who are taking 1st year of high-school education, the English modals are presented to them by considering their semantic properties; appearing in this sense on their textbook, groups of the most common meanings expressed by modals (e.g. 'ability and permission', 'advice and obligation', and 'possibility and certainty').

Authors then provide students two groups of meanings referred to the deontic modality ('ability and permission' *and* 'advice and obligation') and one group of meanings related to the epistemic modality ('possibility and certainty'), without making reference to the category of tense in combination with this semantic category of modality. However, time distinction is included in some expressions, as for the deontic uses of *can, can't, could,* and *couldn't* when expressing 'ability', using "*can* and *can't* to refer to the present and *could and couldn't* to refer to the past" (*In Gear 1,* 2010: 82) or "the use of *could, might* and *may* + infinitive to talk about things we think are possible in the present" (*In Gear 1,* 2010: 83).

Moreover, in *In Gear 1* (2010), the combination between modals and perfect aspect is included, offering students some sentences (e.g. "*He must have been a great student: he got really good exam results*" (*In Gear 1*, 2010: 83)) and then making them to fulfill by their own deductions the grammatical rules when using modals (e.g. "*We use the modal ...(must)*... with a perfect infinitive to talk about things we think are certain in the past" (*In Gear 1*, 2010: 83)).

The English textbook *In Gear 2* (2011) used by the students of 2^{nd} year of high-school education includes more or less the same information seen in the previous course, that is, a mismatched of concepts when dealing with modal expressions: meanings grouped (e.g. 'ability and permission', 'advice', 'obligation and prohibition', and 'possibility and certainty'). If those groups are analyzed, it is possible to find modals that express 'ability and permission' at the same time (i.e. *can/ could*), but the other pair modal (i.e. *may/might*) that expresses 'permission' is not able to express 'ability' within the deontic modality; on the other hand, a modal can express either 'possibility' or 'certainty', however, any modal can express both meanings at the same time within the epistemic modality.

The way to present the English modals shows that epistemic and deontic uses are mixed, without providing students the differentiation between the epistemic modality (if a situation is either possible or necessary) and the deontic modality (that is possible or necessary for someone to do something), permitting students to mix semantic concepts but, at the same time, assuring themselves to assign a stereotyped meaning to each modal auxiliary. That is, there seems to be some conventional meanings that are learnt by L2 English students (i.e. 'ability' in the case of *can* and *could* or 'permission' in

request constructions with *may*, *might*, and *could*), leaving aside the rest of meanings expressed also by these modals (non-conventional meanings), hereafter referred to as 'cliché' vs. 'non-cliché' meanings.

With regards to a non-cliché meaning, for instance, the deontic expression of 'permission in the past' related to the modal *could* does not seem to be introduced neither in *In Gear 1* nor *In Gear 2*, while the deontic expression of 'ability in the past' (cliché meaning of *could*) certainly appears explained in *In Gear 1* (2010) but not mentioned again in *In Gear 2* (2011).

As for the relation between English modals, tense, and time reference, the authors of this textbook (*In Gear 2*) state that "most modal verbs only have one form" suggesting the reader to "use other expressions like *be able to, manage to, be allowed* to and *have to* to talk about the past or future and form different tenses" (*In Gear 2*, 2011: 36). This statement affirms that these authors treat most modals as present tense forms which locate situations only in a present time-sphere, not considering other special uses of *could* (or maybe *might*) that are able to make time references on their own.

In a subsection of this textbook, it is added that if the student wishes to refer to the past, the combination of modals and perfect is needed, extracting from this, a general rule that needs to be applied when making reference to the past time (modal + have = past time), without highlighting important issues as the special uses of deontic *could*, when expressing 'permission' and 'ability' in the past, or the exception between the combination of *can* plus perfect aspect; or the possibility of *might* expressing a past event in reported speech (see section 3.2.2).

As discussed in sections 3.1 and 3.2, the inflection of tense on English modals is still a debatable issue among grammarians. This seems to be avoided on certain L2 English textbooks, as the ones described above, that simply illustrate stereotyped uses of modals for expressing past and non-past time actions or events, not providing enough information about those contexts where the usage of modals does not only express modality but also past time in contrast with those non-past tense modals, which would help them to understand better the usage and the meaning of the central modals they are learning.

5. Objectives of the study

In order to test the difficulties (or the lack of them) in the understanding and usage of English modals, a specialized test, that covers the stereotyped and non-stereotyped uses of modals, discussed in section 2, and the relation of these auxiliaries with time reference, discussed in section 3, will be conducted to two groups of high-school students (1^{st} year group and 2^{nd} year group).

As detecting that most L2 English students usually associate English modals to stereotyped uses, learning in this sense 'cliché' meanings (and structures) and ignoring others (('non-cliché' meanings (and structures)); the semantic complexity of modals, including those polysemous uses discussed in section 2 and 3, will be tested on both groups of students who are expected to have some difficulties with those uses that are not found in their textbooks or not adequately explained.

Furthermore, as evidenced the relevance of time reference in relation with the categories of modality and tense, discussed in sections 2.2 and 3, the present study aims to test whether these L2 English high-school students are able to distinguish time references on both types of modal constructions (i.e. epistemic and deontic modality), with a due consideration on the past time reference. Due to the inevitable relation between time and tense, those 'past tense modals' are crucial elements for this study. Each and every of the meanings expressed by modals (see Table 3, section 2.2) will be considered with a closer attention to special uses of deontic *could*, reported speech constructions where *could* and *might* appear, and modal perfect constructions where the reference of past time is mainly achieved by the primary auxiliary verb *have*, especially found in epistemic constructions.

If considered Klammer et al. (2013) and Biber et al. (2002)'s point of view, these L2 English high-school students would perceive modal auxiliaries as present tense forms that mark only present time reference, as these grammarians state so. Opposing to this view and following Quirk et al. (1985) and Huddleston (1988)'s perspective, students would notice the abnormal time reference on those 'past tense modals', being able to separate time references from form and modality. Now, if we pay attention to the grammarians that hold a neutral argument, as Dekeyser et al. (2011) and Depraetere and Langford (2012) who consider that 'past tense modals' exist but those do not express

past time but rather modality, we would predict that students could have some problems with the expression of past time on those past modal forms, but no problems with the expression of modality.

The most controversial cases –deontic uses of *could*, reported speech constructions with *could* and *might* and modal perfect constructions related to both types of modality, all this merge with the influential relation of stereotyped uses when dealing with modals, will be duly considered for the present study. These theoretical views together with the content provided in both English textbooks will be the points of reference for our analysis. Therefore, we will test how L2 English students understand modals in relation with time reference and how only the stereotyped uses of modals are those learnt by students when interpreting modals, this will be deepen from the perspective of L2 English learners.

6. Description of the study

Considering the objectives marked above, a specialized test, comprised of two tasks, has been designed to be fulfilled by the L2 English students who are taking 1st and 2nd year high-school courses in Valladolid (I.E.S Juan de Juni) and whose results will be interpreted as for the modality-tense-time reference relation and the cliché meanings and structures associated to the English modals discussed throughout this paper.

6.1 Participants

The participants of our study are two groups of L2 English high-school students who are taking 1st and 2nd year courses of *bachillerato* in I.E.S Juan de Juni (Valladolid) and whose ages range from 16 to 19 years old. Both groups of students receive the same amount of input in English (three hours a week), but following the specific Juan de Juni Educational Policy, 2nd year students have tested a higher competence of English.

6.2 Test design

As pointed out, this test is comprised by two tasks. The point of departure for the first task is related to the time reference expressed in each modal sentence, with a due consideration on past time; and for the second task, the purpose focuses around the stereotyped meanings and structures on the modal sentences of this task, considering in this way the 'cliché' and the 'non-cliché' meanings and structures and how they can also be related to the stereotyped uses associated with tense in modals. For both tasks, we have taken into consideration all the meanings expressed by the modals discussed in Table 3 and section 2.2.

6.2.1 Task 1

For the first task, two (or three in specific cases) sentences including each modal have been used: in the case of *may* and *might*, one sentence expressing epistemic modality (see sentences 8 and 3, respectively, in Appendix 1) and another sentence expressing deontic modality (see sentences 18 and 20, respectively). In the specific cases of *can* and *could*, as they express more than one meaning, three sentences for *can* have been

included: one expressing epistemic meaning ('possibility') (sentence 1 in Appendix 1) and two expressing deontic meanings ('permission' and 'ability') (sentences 10 and 3); as for *could*, four sentences have been included: one expressing the epistemic sense ('possibility') (sentence 7) and three expressing deontic meanings ('permission in the past', 'ability in the past', and 'polite request') (sentences 17, 21, and 14, respectively). Finally, in the case of *must*, two sentences have been included: one expressing epistemic modality (sentence 5) and one expressing deontic modality (sentence 19).

In addition to this, the past time feature has also been included into the test by the primary auxiliary verb *have*: In the case of *may* and *might*, only two sentences expressing epistemic modality have been included (sentences 2 and 13, respectively), as both modals are not able to express deontic modality ('permission') in the past time. As for *can* and *could*, two sentences have also been included (sentences 4 and 9, respectively), and in order to provide a grammatical sentence, the combination between *can* and perfect aspect has only been possible by using its negative form, as shown in (sentence 4). Finally, in the case of *must*, other two sentences were included (sentences 15 and 16). However, the possibility of using *must* plus perfect aspect when expressing deontic modality, that is, 'obligation' in a past time-sphere has been considered for our test, even though it is taught that in order to express 'obligation' in the past.

In addition to this, the reported-speech lexical verbs in combination with modals have also been included in task 1 (sentences 11 and 12) (i.e. with modals *could* and *might*). Therefore, the number of sentences in the first task amounts to a total of 21 sentences that appear in a random order as shown in Appendix 1.

In order to complete this task, students are asked to choose one (or more) time reference(s) (i.e. past/present/future) expressed on the modal sentences concerned.

6.2.2 Task 2

As for the second task of the test (see Appendix 1), the time reference is not the central focus (all sentences include a non-past time reference except for *could*), although it will help us to determine that stereotyped uses (usually those found in textbooks) may have an influence on the results from both tasks. In the specific case of the task 2, the purpose

is to observe if students are able to distinguish those 'non-cliché' meanings and structures from the 'cliché' ones.

In this sense, a modal sentence expressing a 'cliché' meaning will contrast to another that expresses a 'non-cliché' meaning. More specifically, in the case of the modal *can* whose 'cliché' meaning would be 'ability' (sentence 1), it will have to contrast with another meaning also expressed by *can*, but this time expressing epistemic modality 'possibility' (sentence 5). As for *could*, the contrast will be established between 'ability in the past' (cliché meaning, as in sentence 6) and 'permission in the past' (non-cliché meaning, as in sentence 10). And in the cases of *may* and *might*, apart from doing a semantic contrast between 'cliché' and 'non-cliché' meaning (i.e. cliché meaning 'possibility', as in sentences 4 and 8, and non-cliché meaning 'permission', as in sentences 11 and 12), a structural contrast will be done, that is, one semantic concept (e.g. 'permission') expressed in two different constructions: interrogative (polite request, as in sentences 11 and 12, not so commonly found in textbooks). Finally, the contrast between the 'cliché' meaning of *must* ('obligation', as in sentence 9) with the 'non-cliché' one ('deduction', as in sentence 3) is included.

In order to complete this task, students are told to choose one of the meanings proposed in the paper (i.e. 'possibility', 'ability', 'permission', 'certainty', 'obligation') for each of the modal sentences.

Throughout the elaboration of this test, other features have also been taken into consideration, as for the use of simple vocabulary and the order of the tasks, taking the more challenging one (i.e. task 1) to the first position in order to get the higher level of freshness and concentration while doing it.

7. Results and discussion

The results obtained from task 1 and task 2 are presented in the following sections, where the interpretation of both groups of students' answers has been graded as correct (C) and non-correct (N-C).

7.1 Results from task 1

7.1.1. 1st year group

In order to see in which semantic category (i.e. epistemic or deontic modality), the 1st year group of students has (or not) problems when interpreting modal sentences, the twenty-one sentences of task 1 have been divided into the two types of modality and the time references each of the modals studied expressed, being the results obtained those shown in Table 4⁴

EPISTEMIC				DEONTIC				
	PAST		NON-PAST ⁵		PAST		NON-PAST	
	С	N-C	С	N-C	С	N-C	С	N-C
can	26,7%	73,3%	73,3%	26,7%			50% _(A)	0% (A)
							26,7% _(P)	23,3% _(P)
could	33,3%	16,7%	86,7%	13,3%	3,3% _(P)	46,7% _(P)	100%	0%
	36,7% _(RS)	13,3% _(RS)			36,7% _(A)	13,3% _(A)		
may	66,7%	33,3%	40%	60%			86,7%	13,3%
might	36,7%	13,3%	40%	60%			80%	20%
	26,7% _(RS)	23,3% _(RS)						
must	60%	40%	60%	40%	40%	60%	80%	20%
TOTAL	57,4%	42,6%	60%	40%	40%	60%	84,7%	15,3%

(RS: reported-speech sentences; A: ability; P: permission)

⁴ Results are shown in terms of percentages. The total percentage of each modal is calculated on the basis of the number of instances of each modal and the number of participants in each group (e.g. 100% in the case of past *can* =15 instances x 15 participants in group 1 vs. 100% = 23 in the case of past *can* in group 2) ⁵ Present and future time references have been grouped into one single category: non-past time reference.

A general perspective of the results shows that 1^{st} year students have provided correct answers in most of the cases. Focusing on the non-correct and on the epistemic modality, the most relevant cases that show a higher percentage of error are those related to the modals *can, may,* and *might*. In the case of *can*, the past time reference has not been correctly detected by most students of this group who has considered the combination of *can* with the primary auxiliary verb *have* as a non-past time expression (N-C= 73,3%) maybe influenced by the present tense form of this modal. In the case of *may* and *might*, the problem is not addressed to the past time, but rather to the non-past time reference (N-C= 60% in both cases), possibly related to the combination of these modals with the passive voice which could have probably confused the students. In the specific case of *might*, when expressing a non-past time reference, students consider this sentence as a past time expression, influenced maybe again by its form, that is, its past tense form.

As for the rest of modals, the relation between modal forms, time, and modality has not evidenced major difficulties, that is, *can, could*, and *must* do not present problems with non-past time reference (C= 73,3%, 86,7% and 60%, respectively); and *could, may, might*, and *must* show a high level of correctness when dealing with past time reference (C= 33,3%, 66,7%, 36,7% and 60%, respectively).

As described in section 6.2.1, two reported-speech sentences were included (i.e. with modals *could* and *might*). In the case of *could*, the past time reference is correctly identified even when used in reported speech (C= 33,3% in combination with *have* vs. C= 36,7% in reported speech). However, in the case of *might*, students seem not to be able to discern clearly whether *might* is expressing past tense in the reported speech sentence or not (C= 26,7% vs. N-C= 23,3%).

According to these results, it is remarkable that modal forms (present and past tense forms) do not always influence when dealing with time references, but certainly, they do so on certain cases: such as when *can*, a present tense form, in combination with auxiliary *have*, is not identified as a past reference, or when *might*, a past tense form, is not identified as an expression of present reference. However, in the case of *could*, within an epistemic context, the modal form does not seem to influence negatively in the reference of time, as most students detect that this past-tense form can be used in a non-past time context (C=86,67%).

As for the results dealing with deontic modality, the two cases that report major difficulties with the past time reference are those related to the modals *could* and *must*, and more specifically, with the deontic meanings of 'permission in the past' with *could* (N-C= 46,7% vs. C= 3,3%) and 'obligation' located in the past due to the combination of *must* with the perfect *have* (N-C= 60% vs. C= 40%). These results could be the pure reflection of a non-formal teaching of both deontic concepts in relation with time reference (i.e. 'permission' and 'obligation' in the past). The meaning of 'permission' is certainly taught to the 1st year group; however, its relation with time reference is not included on their textbooks, being associated this concept only to a non-past time reference, reflected on the results obtained (i.e. *could* expressing 'permission' in non-past time reference C= 100%). On the other hand, even though the semantic concept of 'obligation' is introduced in *In Gear 1*, the authors indicate that 'permission in the past' can only be possibly expressed by the semi-modal *had to* and not in combination with the perfect *have*.

Despite the previous exceptions, 1st year group students evidence a good understanding on the relation between modal forms, non-past time reference, and deontic modality, detecting without problems, the non-past time expression of 'ability' by *can*, 'permission' (in request and affirmative constructions) by the modals *could*, *may* and *might*; and finally, 'obligation' in a non-past time context with *must*.

7.1.2. 2nd year group

Table 6 shows the results obtained in task 1 by 2^{nd} year group of students who also take part of the scope within this study. The same pattern used for the description of the results from group 1 has also been followed in this case.

EPISTEMIC					DEONTIC			
	PAST		NON-PAST		PAST		NON-PAST	
\sim	C	N-C	С	N-C	С	N-C	С	N-C
can	65,2%	34,8%	82,6%	17,4%			50% _(A)	0% _{(A}
							30,4% _(P)	19,6%
								(P)
could	41,3%	8,7%	73,9%	26,1%	13% _(P)	37% _(P)	91,3%	8,7%
	41,3% _(RS)	8,7% (RS)			41,3% _(A)	8,7% _(A)		
may	82,6%	17,4%	73,9%	26,1%			95,7%	4,3%
might	34,8%	15,2%	65,2%	34,8%			100%	0%
	37% (RS)	13% (RS)						
must	43,5%	56,5%	78,3%	21,7%	56,5%	43,5%	87%	13%
TOTAL	69,1%	30,9%	74,8%	25,2%	55,4%	44,6%	90,9%	9,1%

Generally speaking, the students from group 2 show a better understanding on the modals-tense-time references relation, although some difficulties were detected. As for the epistemic modality, the most relevant case with non-correct answers is related to the modal *must* when expressing a past time reference, as more than a half of participants describe *must* plus *have* + ed- participle as a non-past time expression (N-C= 56,5%). Despite this, better results are obtained with the rest of English modals when dealing with this time reference, that is past time, (65,2% with *can*, 82,6% with *could*, 82,6% with *may* and 71,8% with *might*) and also a high level of correctness is portrayed when modals are related to a non-past time expression (82,6% with *can*, 73,9% with *may*, 65,2% with *might* and 78,3% with *must*).

On the other hand, most of the participants identify correctly the time reference included on the two reported speech sentences, being the past time reference equally identified on the modal perfect constructions with *could* and *might* (C= 41,3% with *could* and C= 34.8% with *might*) and when these modals appear in the reported speech constructions (C= 41,3% with *could* and C= 37% with *might*).

As for the deontic modality, the error that persists deals with the modal *could* when expressing the deontic meaning of 'permission in the past' (N-C= 37%), which may be due to a misinterpretation between modality and time reference. The 2^{nd} year group relate this deontic meaning (i.e. 'permission') with a non-past time reference (i.e. the permission is being allowed at the moment of speaking), as they are not conscious of

the relation between this meaning and the time reference related to it (i.e. the permission was allowed in the past). However, the same students do realize of the past time-reference of *could* when expressing 'ability in the past'(C=41,3%), which clearly contrast with the other deontic concept.

Another relevant detail is perceived on *must* when expressing its deontic meaning (i.e. 'obligation': 2^{nd} year students are told through their textbook that in order to express a 'past time obligation', the semi-modal *had to* needs to be used). However, focusing on the results obtained, more than a half of the participants identify *must* plus *have* + ed-participle (sentence 21, Appendix 1) as an expression of 'obligation' located in a past time-sphere, and then, being able to identify the use of the perfect *have* in this case.

Furthermore, deontic sentences in relation with non-past time references evidence a high level of correctness (C= 80,4% with *can*, C= 91,3% with *could*, C= 95,7% with *may*, C= 100% with *might*, C= 87% with *must*); being the most correct answers that represent the highest percentages, those related to the expression of 'ability' in the present by *can* (C= 50%) and 'permission' in the present by *might* (C= 100%).

7.2 Results from task 2

In order to see if both groups of participants show the same preference (or not) for those stereotyped uses when dealing with modals, the results obtained from task 2 are those reflected in Table 6, where the contrast between the 'cliché' and the 'non-cliché' meanings and structures are evidenced.

Table 6:	Results fr	om task 2						
GROUP 1					GROUP 2			
	CLICHÉ		NON-CLICHÉ		CLICHÉ		NON- CLICHÉ	
	С	N-C	С	N-C	С	N-C	С	N-C
can	93,3%	6,7%	40%	60%	100%	0%	34,8%	65,2%
could	73,3%	26,7%	13,3%	86,7%	91,3%	8,7%	13%	87%
may	53,3%	46,7%	40% _(I)	10% _(I)	82,6%	17,4%	47,8% _(I)	2,2% _(I)
			23,3% _(A)	26,7% _(A)			21,7% _(A)	28,3% (A)
might	40%	60%	30% _(I)	20% _(I)	65,2%	34,8%	41,3% _(I)	8,7% _(I)
			6,7% _(A)	43,3% _(A)			4,3% _(A)	45,7% _(A)
must	80%	20%	60%	40%	91,3%	8,7%	56,5%	43,5%
TOTAL	68%	32%	42,7%	57,3%	86,1%	13,9%	43,9%	56,1%

(I: interrogative construction; A: affirmative construction)

In the case of the modal *can*, the deontic expression of 'ability in the present' (cliché meaning), which is perfectly detected by both groups of participants when interpreting this modal, represents the most correct answer obtained in the present task (C= 93,3% in the 1st year group and 100% in the 2nd year group); however, the epistemic meaning (i.e. 'possibility') expressed by this modal seems not to be considered by most of the 1st and 2nd year students (N-C= 60% and N-C= 65,2%, respectively). The same occurs with the modal *could* when expressing the deontic meaning of 'ability in the past' (cliché meaning) which is highly detected by both groups of students (even more by the 2nd year group, C= 91,3 %), not identifying the other deontic meaning expressed by *could* (non-cliché), that is, 'permission in the past' (N-C= 86,7% in the 1st year group and N-C= 87% in the 2nd year group).

As for the 'cliché' epistemic meaning of *may* and *might* (i.e. 'possibility'), both groups of participants present no difficulty on identifying it (except for *might* in the 1st year group); at the same time, a preference for the interrogative construction (i.e. a cliché structure as in *May I sit here*? With the modal *may*) when dealing with the 'non-cliché' deontic meaning of these modals, that is 'permission', is evidenced by both groups of students (in the 1st year group, C= 40% and 30%, respectively, and in the 2nd year group, C= 47,8% and 41,3%, respectively), not identifying the same non-cliché meaning when presented in other construction, that is, in an affirmative construction (i.e. a non-cliché structure as in *If you promise to behave, you may sit at the table with the adults* with the modal *may*).

Finally, in the case of *must*, both of the meanings expressed by this modal (i.e. 'certainty' and 'obligation') are distinguished correctly by both groups of students, showing better results with the cliché meaning (i.e. 'obligation') (C= 80% in the 1st year group and C= 91,3% in the 2nd year group) in contrast to the non-cliché meaning (i.e. 'certainty') (C= 60% in the 1st year group and C= 56,5% in the 2nd year group).

In sum, the idea of stereotyped uses when dealing with English modals is confirmed by the results obtained from task 2: L2 English high-school students have difficulties when identifying the 'non-cliché' semantic concepts or structures expressed by modals, as they do not consider other meanings and other formal structures when using modals.

7.3 Discussion

When dealing with the polysemous uses of the English modals, and more specifically with the relation between forms of modals, time references, and types of modality, similarities and differences between both groups of students can be pointed out from the results obtained in the present study. Generally speaking, most students in both groups provided the correct modal-tense classification, evidencing a more solid understanding in the relation between forms of modals; being most of the deontic meanings expressed, those related to the 'cliché' meanings (i.e. 'ability in the present', 'ability in the past', 'permission' (specially in polite request) and 'obligation').

Focusing on the difficulties that both groups of students found, and dealing with on the similarities observed, both groups found difficult interpreting the time reference inherent to the deontic expression of 'permission in the past' indicated by *could*. These L2 English learners, as proved by the results from task 2, may have been influenced by the stereotyped uses provided in their textbooks, which would make them not to be conscious of the other time reference also expressed by deontic *could* when dealing with the concept of 'permission', as they relate this expression with a non-past time reference only. In this way, their behavior portrays that this meaning is usually associated to a 'cliché' structure (i.e. interrogative construction –polite request), as evidenced in the cases of *may* and *might* (task 2), as evidenced in the cases of *may* and *might*, not considering the other structural form (i.e. affirmative construction) nor the other non-cliché time reference (i.e. past time).

Among the differences observed in the present study, the three modals that are involved are *can, might*, and *must*. In the case of *can*, the combination of this modal with the perfect *have* is considered as a non-past time expression by the 1st year group of students and as a past time expression by the 2nd year group. Both results, although different, could be related to form, that is, in the former case, most of the students could have been influenced by the present tense form of the modal *can*, and in the latter case, by a stereotyped combined form that expresses past time, that is, modal plus *have* + edparticiple. The great majority of students realize that a modal perfect construction, that is a modal in combination with perfect *have*, is used as an indicative of past time with a current relevance in the present expressed by the primary auxiliary verb and not by the modal itself. As for the modal *might*, two different aspects are considered: (a) the combination of the reporting lexical verb with the past tense modal form, which is present in the subordinated clause, being the 1st year group not able to discern the past tense and, with this, the past time reference on this reported speech construction, while the 2nd year group does not present problems with it; (b) when dealing with its modal form, the 1st year group seems to be influenced by its past tense form (i.e. *might*) misinterpreting the non-past time reference on the sentence, while the 2nd year group detect correctly that 'abnormal time reference' involved, that is, a non-past time reference in a past tense modal form. Results (a) and (b) could be justified by the difference between both groups in terms of their English competence: the higher competence in English, the better discerning of modals can express different time references.

Still, dealing with the differences detected between both groups, another relevant case is related to the modal *must*. As described before, students are told that in order to locate the deontic meaning of 'obligation' in a past time-sphere, the semi-modal *had to* needs to be used. Interestingly, the combination between deontic *must* and the primary auxiliary verb *have* is detected as a non-past time expression by the 1^{st} year group of students while the same combination is seen as a past-time expression by the 2^{nd} year group. If both cases are analyzed, 1^{st} year students follow what they are being taught (i.e. the use of the semi-modal verb *had to* in order to locate the 'obligation' meaning in a past time-sphere), but, those 2^{nd} year students, apart from not following the premises exposed on their textbooks, could either have shown that their higher competence in English makes them more familiar with this structure or could only have been influenced by the stereotyped combined form between modals and perfect *have*, that is, *must* plus *have* + ed-participle equals past time reference.

If we interpret these results from the grammarians' perspective presented in section 2 and 3 of this work, most of them could be explained in terms of form, time reference, and modality relation. Dekeyser et al. (2011) and Depraetere and Langford (2012) classify English modals according to their form, that is, present (e.g. *can, may*) and past tense forms (e.g. *could, might*); however, these grammarians do not relate modals to time references but rather to modality. This viewpoint can be exemplified in the case of *can* in combination with perfect *have*, as most of the 1st year students focus on the

modal form (i.e. present tense form of *can*) and not on the time reference expressed by perfect *have*.

But, if we now deal with the expression of time, the debatable topic about modals as inflected or uninflected elements will reappear. Reconsidering then Huddleston (1988)'s viewpoint (i.e. either modality, epistemic or deontic, involves a present time utterance by a speaker who is expressing an opinion or imposing an obligation), it seems that the 1st year group has interpreted *can* plus *have* +ed-participle (e.g. *You can't have done it so quickly*) as expressing a non-past time opinion. That is, in that structure certainly the event would be located in the past (e.g. *have done something quickly*), but, the speaker is pronouncing a present time utterance about a specific event, not considering if the event took place (e.g. *two weeks* or *two months ago*), but the present time reference of the speaker's opinion (i.e. epistemic modality) that is being expressed at the time of speaking. This interpretation on the part of our participants and their interpretation of *can* would also support other grammarians' view (Klammer et al. 2013; Biber et al. 2002) when they state that all modals should be treated as present tense forms that locate modality in a present time-sphere regardless the time reference of the event described.

An exception to this statement would be deontic *could*, since most grammarians notice that *could* apart from expressing modality also evidences verbal inflection, especially when expressing deontic meanings (i.e. 'ability' and 'permission' in the past), locating the events in a past time-sphere. According to our results, students do not present problems when interpreting the stereotyped meaning of *could*, that is, 'ability in the past', nor when its other deontic meaning (i.e. 'permission') is presented in a stereotyped construction and with is with a 'cliché' time reference, that is, interrogative construction in a non-past time-sphere, evidenced on the high level of correctness obtained when this past tense modal (*could*) is presented in polite requests (task 1), not considering the other time reference involved (i.e. 'permission' in the past time).

Overall, most students from both groups have discerned adequately the 'abnormal time reference' on the modal constructions proposed, however, stereotyped uses seem to prevail in the educational context, portraying in this way a preference for those 'cliché' meanings and structures when dealing with English modals.

8. Conclusions

The debatable relation between the English modal auxiliaries and the reference of time has been our starting point for the elaboration of this work. Since there is not a straightforward correspondence between past tense modal forms and the expression of a past time reference, it is expected that L2 English students will have some difficulties interpreting the relation between traditionally 'past forms' and 'present forms' in the English modal verbs paradigm. In fact, and as we have shown, certain English textbooks avoid the exploration of this topic when teaching these modals, by simply presenting L2 English learners stereotyped uses of modals.

More specifically, our participants evidence difficulties with *could* when expressing 'permission in the past', *may* and *might* when expressing 'non-past time possibility', *might* in 'reported speech constructions' involving a past time reference, *can't* plus perfect *have* when expressing 'impossibility in the past', *must* and perfect *have* when expressing 'obligation in the past', and finally when distinguishing those 'non-cliché' meanings and structures showing that modals behave syntactically and semantically different from other auxiliary verbs.

Therefore, the results derived from our work point out that the grammatical complexity of English modals requires not a mechanic way of teaching, but an adequate and maybe more detailed explanation of the modal verbs paradigm (e.g. the combination between modals like *can* or *must* with the primary auxiliary verb *have*) and of specific properties of certain modal auxiliaries (e.g. the deontic uses of *could*, the influence of the reported-speech verbs with certain past modal forms like *could* and *might*, the non-past time reference expressed by certain past modal forms like *could* or *might*). In other words, part of the teaching of the English modals should include the fact that modals are polysemous and that epistemic and deontic meanings can show a different relation with time references depending on the modal verb itself: some can refer to past or non-past time by themselves and some other need their combination with other auxiliaries to express past time.

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10. Appendix (1)

ENGLISH MODALS TEST

Task 1

What is the time-reference that each modal expresses in the following sentences? Choose one (or more) of the following options and write it (or them) on the blank

space

PAST / PRESENT / FUTURE

1.	Drinks can be bought from the machine downstairs						
2.	You can't have done it so quickly						
3.	I've been working on this for hours. Can I stop?						
4.	He can run a marathon in two hours						
	Listen, I could be leaving earlier than planned						
	. You could have bought that dress on sales						
7.	They asked us if we could bring dessert, so we picked up a cake on the way						
8.	Could I use your phone?						
9.	My child could read in French when he was only five						
10.	On Sundays, we could stay in bed until 12						
11.	During the autumn, many rare birds may be observed on the northern coast						
12.	He may have missed his departure from London to Barcelona						
13.	You may leave your car on my garage tonight						
	The road might be blocked due to an accident						
15.	You didn't even tried to contact me, you might have tried at least						
16.	He said he might be back at 10 that night but he never showed up						
17.	You might take your dirty feet off the sofa						
	You must be exhausted after such a long walk						
	We were supposed to meet at 10, he must have forgotten about it						
	You must be back at 10 at very latest You must have sent me an email before coming to my office						

Task 2

Choose the appropriate meaning of the following sentences. Write it on the line

possibility ability	permission	certainty	obligation	1
---------------------	------------	-----------	------------	---

- 1. I can run a marathon in 2 hours _____
- 2. You can ski in the hills, there is enough snow _____
- 3. I could swim very well at the age of 3 _____
- 4. When I was young I couldn't play with my friends after school until I'd done my homework ______
- 5. May I sit here?
- 6. If you promise to behave, you may sit at the table with the adults

7. I may get a full-time job ____

- 8. Her parents said that she might come to the party _____
- 9. Might I see your letter, please?
- 10. I might get you an invitation for tomorrow's party _____
- 11. The old man at the door must be John's grandfather _____
- 12. You must visit your grandfather. He is at the hospital
