# The Functions of *Must*-constructions in Spoken Corpus:

# A Constructionist Perspective

**Tsi-Chuen Tsai**
National Chengchi University
No. 64, Sec. 2, Zhi Nan Rd.,
Wenshan District, Taipei City 11605,
Taiwan
`102551505@nccu.edu.tw`

**Huei-Ling Lai**
National Chengchi University
No. 64, Sec. 2, Zhi Nan Rd.,
Wenshan District, Taipei City 11605,
Taiwan
`hllai@nccu.edu.tw`

## Abstract

This study investigates *must* constructions in the Spoken British National Corpus 2014 (Spoken BNC2014). A constructionist perspective is taken to examine the structure and distribution of *must* constructions in the spoken corpus. Moreover, a conversational analysis is conducted to identify the functions of *must* constructions as they are used in communication. Adopting corpus analytical procedures, we identified two major *must* constructions, [*must*+be] and [*must*+'ve/have], whose central member [there+*must*+be+some] conducts the topic extending function while [she+*must*+'ve/have+been] is related to the speaker's evaluation of the condition of an individual identified as *she*. On the other hand, although [*must*+Verb] does not have a very high type frequency, its central member [I+*must*+admit+I] performs an important interpersonal function in minimizing possible negative impact brought about by the speaker's comment. The findings suggest that the central members of *must* constructions exhibit dynamic and interactive functions in daily conversations.

## 1. Introduction

For decades, it has been a challenge for linguists to come up with clear classification or delineation of modality. The literature is inundated with different terminology or criteria to refer to similar phenomena (Nuyts, 2006). Broadly speaking though, most linguists recognize three kinds of modality. Dynamic modality describes the capacity or needs of the controlling-participant or similar potentials determined by the local circumstances as in (a) ***I must*** *find a solution for this problem soon now* or (b) *To open that door you* ***must*** *turn the key* (Nuyts, 2006, p. 3-4). Deontic modality presents a degree of moral desirability through permission, obligation, and volition as in (c) *We* ***must*** *leave immediately*. Finally, epistemic modality expresses the degree of probability including the logical possibility, hypothetical meaning, and predictability such as (d) *You* ***must*** *be John's wife* (Papafragou, 1998, p. 2-3). In many studies, however, the meanings of modal verbs often become ambiguous because a majority of them may express various meanings simultaneously. Take (a) for example. *Must* may express a deontic sense when the speaker is responsible for the consequence. Likewise, it is possible for *must* in example (d) to carry a deontic reading if it is presented under the condition that the marital certificate has been signed and the vow has been exchanged. Due to its complexity, modality has been notoriously employed as a test-bed to provide explanation for both linguistic representation and use (Papafragou, 1998). On the other hand, the indeterminacy of modal meanings has also had some linguists, such as Bybee, et al. (1994) confess, "it may be impossible to come up with a succinct characterization of the notional domain of modality" (p. 176).

Recently, the issue has been approached from a constructionist perspective, which examines modality in terms of a network of constructions rather than sense relationship (Boogaart, 2009). The insights provided by the constructionist approach inspired numerous discussions and an issue of *Constructions and Frames 8(1)* devoted to

the investigation of modal constructions. While important findings were uncovered, Fischer (2001, 2015) urged the integration of the constructionist approach and the conversational analysis to capture the dynamics of human communication. Using the *must* construction as an example, this paper attempts to demonstrate the usefulness of a constructionist approach in combination with the conversational analysis to provide a more precise and detailed description of modality. Particularly, we examine (1) the central members of *must* constructions in spoken corpus, and (2) the generalized functions of the central members of *must* constructions. The rest of the paper is organized as follows. Section two provides a brief review of the previous accounts of *must*. Section three introduces the methodology. Section four presents the result, section five discusses, and section six concludes the study.

## 2. The meanings of *must*

Various approaches have been taken to the delineation of *must*. The following subsections briefly describe each.

### 2.1 A monosemous account

The monosemous analysis aims at assigning modals a unitary meaning, and considering certain modal interpretations to be derived pragmatically in the process of exchange (Groefsema, 1995; Papafragou, 1998). Thus, the meaning of *must* may be conceptualized as 'X necessitates Y' where Y refers to the propositional content of the clause and X is a pragmatic variable which may determine the kind of modality involved (Boogaart, 2009). Under this notion, if X is an authority, we may derive deontic *must*. On the other hand, when X involves personal aims, we are dealing with dynamic *must*. Alternatively, *must* may express epistemic sense when X refers to a body of knowledge or evidence. By treating modal semantics as ambiguous, the monosemous notion provides a common ground for the interpretation of different senses expressed by the modal verbs. However, Boogaart points out that such an abstract notion tends to stretch the unitary semantics so much that it fails to capture modal meanings in real use. It also fails to distinguish the different modal readings and to explain their semantic relationships.

### 2.2 A polysemous explanation

The polysemy account deems modal meanings as motivated polysemy rather than unrelated senses (Goossens, 1992; Sweetser, 1990). While Goossens believes that the multiple meanings are organized around a number of prototypical cores, Sweetser regards polysemy as motivated by a metaphorical mapping from the concrete, external world of socio-physical experience to the abstract, internal world of reasoning or mental processes. Her notion is largely attributed to Talmy's (1988) force-dynamic framework, which conceptualizes the modals as the grammaticalized encodings of entities involved in different ways of interaction in terms of forces and barriers. Using an analogy, Sweetser (1990) describes *must* as a positive compulsion operating on concrete, external world of socio-physical experience to express the deontic sense. The notion is then extended metaphorically into the abstract, internal world of reasoning and of mental processes to denote epistemic *must*. However, although the polysemous notion provides an explanation for the systematic relation between the various senses, it suffers similar criticism as the monosemous view. Most notably, the senses that are said to be linked through metaphor are not so distinct and there are numerous instances where modality expressed by modal verbs resists categorization (Papafragou, 1998).

### 2.3 A constructionist approach

Pointing out the inadequacy of the monosemous and the polysemous analyses which place a strong focus on identifying a network of senses associated with one particular modal verb, Boogaart (2009) urges for a shift of attention from generating abstract meanings in isolated modals to identifying specific and concrete constructions which have modals as part of their composition. Constructions are "stored pairings of form and function, including morphemes, words, idioms, partially lexically filled and fully general linguistic patterns" (Goldberg, 2003, p. 219). The different types of constructions are illustrated in Table 1 taken from Fried (2015, p. 978) with slight modification.

| Degrees of schematicity | Degrees of specificity | Examples |
|---|---|---|
| fully filled & | Fully | *blue moon, by and* |

| fixed | specific | *large, children, ink, blue* |
| fully filled & partially flexible | Partially specific | *go*[tense] *postal*, *hit*[tense] *the road* |
| partially filled | Partially specific | *the* [AdjP] (e.g. *the rich/ hungry/young*), [time expression] *ago* (e.g. *six days/beers ago*) adj-*ly* (e.g. *richly, happily*) |
| fully schematic | | [V NP]VP, stemV-PAST (e.g. *walk-ed*, *smell-ed*) |

Table 1: Types of Constructions

By treating form-meaning pairings as functional prototypes along a continuum of categoriality, the constructionist approach blurs the distinction between syntax and lexicon. Moreover, it is postulated that the fully schematic constructions are derived from numerous instances of specific constructions through the process of generalization. For instance, a specific idiom such as *not give a damn*, may give rise to examples such as *not give a hoot* or *not give a monkey's* and later lead to the emergence of a general schema *not give a NP* (Hilpert, 2012). The study of frequent specific constructions may allow better understanding of the meanings and functions of more schematic constructions.

De Haan (2012) attested the usefulness of the constructionist approach in distinguishing the meanings of *must* constructions in the spoken Switchboard Corpus and the written Brown Corpus. In terms of fully specific constructions, he found [I+*must*+admit] or [I+*must*+confess] express deontic modality. In both corpora, he confirmed that partially specific constructions such as [*must*+perfect] and [*must*+progressive] were associated with the epistemic sense. As for register differences, he concluded a correlation between impersonal subjects and epistemic modality in the Switchboard corpus exemplified by [there+*must* be+N/Adj] and [it+*must*+be+N/Adj] but uncovered a reverse pattern in the Brown corpus where [one+*must*+V], [it+*must*+be+passive], and [there+*must*+be+N] had a preferred deontic interpretation.

Cappelle and Depraetere (2016) conducted a similar analysis of *must* constructions in the British National Corpus and gave support to De Haan's (2012) finding on the correspondence between certain constructions and particular modality. Moreover, they drew attention to specific verb groups that were involved in these constructions. For instance, the epistemic [*must*+perfect] construction was found to contain verbs of cognition, perception, or sensation whereas the deontic [*must*+be+passive] construction was associated with verbs of remembering or observing and was used to stress a particular point as in [*must*+be+noted]. These studies demonstrate the usefulness of a constructionist approach in identifying more specific and diverse modal meanings. To establish exemplars of language in use, Fischer (2001, 2015) argued that information from the interactional contexts should also be included in the analysis of constructions. This is because some aspects of constructions can "emerge via the progressive entrenchment of configurations that recur in a sufficient number of events to be established as cognitive routines" (Langacker, 2008, p. 220). Fischer demonstrates that certain meanings can be contributed by the interactional contexts such as the turn where a certain construction occurs, the connection between prior or subsequent utterances, the relationship between the interlocutors or the socio-physical background of the contexts.

The current study will integrate the constructionist perspective and the interactional approach to investigate modality in spoken data. Using the *must* construction as an example, we apply the corpus-driven analysis to the delimitation of its structure and distribution in Spoken BNC2014. We believe the combination of approaches may provide more detailed contextual information and help distinguish the meanings and functions of *must* constructions.

## 3. Methodology

The data for this study were collected from the free online Spoken British National Corpus 2014 (Spoken BNC2014). The corpus contains 11.5 million words of transcribed content featuring real-life, informal British English conversations. The 1251 recordings which comprise the corpus were made by 668 respondents and were meant to

represent the demographic make-up of the population in the United Kingdom (Love, Dembry, Hardie, Brezina, & McEnery, 2017). The target modal verb *must* was typed as [must_VM] using C6 tagset which identified *must* as a modal verb. Two kinds of frequency were incorporated for the analysis of *must* constructions. Type frequency was measured by analyzing the co-occurrence of elements in the schematic slots of *must* constructions in terms of their part of speech (Bybee, 2003). Token frequency was established by identifying the number of lexical items that appear in the *must* constructions. The meanings and functions of *must* constructions were then examined through a conversational analysis, which interpreted *must* constructions in terms of their discourse contexts such as their position in a dialogue or an utterance, the conversational settings, topics, or relationship between the speakers. The present study adopts procedures of a conversational analysis (CA) suggested by Hutchby and Wooffitt (1998, p. 110):

Step 1: Identify a potential object.
Step 2: Produce a formal description of an empirical example.
Step 3: Return to the data collection to refine the description until it becomes a generalized account.

### 3.1 Type frequency of *must* constructions

Type frequency is related to a construction's productivity because high type frequency invites novel items to occur in the construction. We selected items that were among the most frequent part-of-speech collocations of *must* using Log-likelihood scores as our criteria, which measure the strength of association among collocations: the higher the score, the more significant the association. The corpus results were downloaded and transferred to an Excel file for statistical analysis. Table 2 presents *must* constructions in the order of their Log-likelihood scores: from the highest to the lowest. Those items that received negative scores were grouped under the Miscellaneous category.

| *Must* construction | Freq (%) | Log-likelihood[1] |
|---|---|---|
| | | |

| | | |
|---|---|---|
| *Must* + 've/ have | 1655 (34.07%) | 13728 |
| *Must* + be | 1427 (29.37%) | 11384 |
| *Must* + Verb | 794 (16.34%) | 1475 |
| *Must* + do | 101 (2.08%) | 227 |
| *Must* + n't/not | 168 (3.46%) | 33 |
| Miscellaneous | 713 (14.68%) | N |
| Total | 4858 (100%) | |

Table 2: Type frequency of *must* constructions

### 3.2 Token frequency of *must* constructions

Token frequency is related to the strength of the constant parts that make up the *must* construction. Those parts that receive higher token frequency usually serve as the central members of the categories for the schematic slots within the construction (Bybee & Eddington, 2006). For example, if the verb *admit* in [I+*must*+Verb] occurs frequently enough, it may become the central member of the Verb slot to attract semantically similar items such as *say* or *confess* to enter the construction. The result from type frequency analysis showed that [*must*+be], [*must*+'ve/have] and [*must*+Verb] (see Table 2) were characteristic partially filled *must* constructions. The subsequent word-form collocation analysis of the grammatical subjects as well as lexical items that filled in the slots of these constructions uncovered three central members of the *must* construction, namely [there+*must*+be+some] (31 hits), [she+*must*+'ve/have+been] (53 hits), and [I+*must*+admit+I] (34 hits), which were then subject to the conversational analysis.

## 4. The functions of *must* constructions

In this section, the functions of [she+*must*+'ve/have+been], [there+*must*+be+some], and [I+*must*+admit+I] will be discussed in accordance with the definition of construction provided by the literature. Each construction is seen as a linguistic sign that represents a form pertaining to the phonology or morphosyntax and is equipped with its own semantic and discourse-pragmatic characteristics. Both the local and global contexts of the construction are identified. The meaning or function that is performed by the construction in the conversation is next categorized. Then, the generalized function expressed by specific

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[1] Log-likelihood score (Log) presented in the table and throughout the paper is rounded to an integer.

constructions to fulfill certain communicative objectives is recognized.

## 4.1 The evaluative function of [she+*must*+have+been] construction

[*Must*+'ve/have+been] (710 hits) is the most noteworthy representation of [*must*+'ve/have] (1655 hits), and the top six subject collocates of [*Must*+'ve/have+been] are *it* (Log: 669), *she* (Log: 173), *that* (Log: 164), *he* (Log: 109), *they* (Log: 85), and *there* (Log: 84). The majority of other subject collocates occur only once and have very low Log-likelihood scores. While neutral pronoun *it* was the most significant subject collocate, for the purpose of demonstration, the current study investigated [she+*must*+have+been]. We found the construction most frequently occur in narratives where the speakers are recalling or talking about a past event ranging from a personal experience to news or hearsay. The construction is therefore situated in the past and is primarily used to account for the speaker's evaluation or hindsight about the character involved in the event. The following is one example (M= male; F= female).

(1)   F: *and did you know grandma before the war or not till afterwards ?*
      M: *that's a good question now did I know her before ?*
       F: *she __must've been__ in the same town but that wouldn't mean you knew each other cos you would've gone to different schools*
      M: *did I know grandma ? think I did actually*
      F: *ah right* (S6SH)

The conversation happened between a grandfather and his granddaughter. The construction constitutes the speaker's evaluation of a past event based on the information she had at hand despite the fact that she did not participate in the experience. The construction is often found to co-occur with the conjunctive *cos(because)* or *so* as well as hedges like *I think* or *I mean*. This use of *must* construction is associated with the epistemic sense of modality. Examining all the instances, we found that the utterances containing the construction were often responded to by the communicative partners with discourse markers like *oh*, *yeah*, *yes*, *really*, *mm* to show agreement or

*no*, *well*, *but* to show hesitance, surprise, or disapproval in addition to occasional repetition of key words or questions. The responses from the communicative partners are therefore evidence that the construction is evaluative and is subject to confirmation or rejection. The result also shows that the slot following *been* is receptive to a variety of structures such as prepositions (e.g., *in*, *like*), adverbs (e.g., *very*, *so*), adjectives (e.g., *out of date*) and most notably V-ing (e.g., *doing*, *having*, *spying*, *paying*). Close examination reveals that the semantics of these items tends to describe the condition or status of the individual identified as *she*. Thus, despite diversity in structure, the meanings of these items contribute substantially to the evaluative function of the construction. Of these items, we also noticed that the use of V-ing allows the speaker to dramatize the narration to make the story more vivid and believable as illustrated by the following example.

(2)   M: *so that was horrible it wasn't very nice we were ho- we were were it was so hot in there and so you can't wash or anything for like four days*
      F: *oh my gosh she __must__ have been really struggling*
      M: *it was too hot to sleep I the tent as well so you're just kind of like out it was just er some you know they got the guys have got stories one one's got like big erm snake bites like on his arm and like they've seen quite a few jaguars* (SB4D)

In example (2), the speakers were talking about an adventure in the Amazon rainforest. The use of the construction brings the character's action to life and demonstrates the speaker's conviction about the authenticity of the tale. In addition to its use in depicting an event in the past, on several occasions we found the construction signal assertion without necessarily referring to the past such as *she __must have been__ in this country for about fifty-seven years*, *she __must have been__ very isolate* or *she __must've been__ on the olive oil for mm years now*. Since the co-text of the above utterances were mostly in the present tense or indexed by temporal phrases, the construction was used to express the speaker's appraisal of the condition of *she* up to the present. We believe it is the family resemblance among the items which share the

schematic slot of the construction that has boosted the productivity of [*must*+'ve/have] and supported the broad temporal space encompassed by [she+*must*+have+been] (Bybee, 2010). We summarize the features of [she+*must*+have+been] in Figure 1.

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Fun: EVALUATIVE (past → past in action → up to the present)
Form: *she must have been*

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Figure 1: [she+*must*+have+been] construction

## 4.2 The topic extending function of [there+*must*+be+some] construction

The high type frequency (1427 hits) of [*must*+be] suggests that the construction may accommodate various members in its schematic slot and as a result the meaning of the construction will be more general (Bybee, 2010). Similar to [*must*+'ve/have] , significant subjects of [*must*+be] are primarily third personal pronoun, existential *there* or determiner such as *it* (Log: 1320), *there* (Log: 962), *that* (Log: 225)*, they* (Log: 195), *he* (Log: 181), or *she* (Log: 140). Since [there+*must*+be+some] has a very high token frequency and Log score, we study the construction to understand its function. We found most objects following *some* tend to denote fuzzy boundary or degree such as *sort of*, *kind of*, *place*, *stuff*, or *difference* or suggest some type of aid like *instructions* or *services*. In fact, the construction is often found in dialogues that involve multiple speakers participating in a search for things, places or solutions. The following is an example.

(3)  M: *can can we find one ?*
    F: *no*
    M: <u>*there **must** be some*</u>
    F: *I tried*
    M: *somewhere about in Britain*
    F: *I looked*
    M: *huh*  (S9DE)

Earlier in the dialogue, the couple were talking about their individual weekend plans. When the wife reported that she had cancelled her shopping trip and would stay home, the husband urged the wife to find some place to shop so that he may stay home alone and get some rest. The construction conveys a strong sense of desire on the part of the husband to get his wife out of the house. The wife's replies like *I tried* or *I looked* show that the construction is quite engaging since it is actively responded to. In close examination, we also found the items following *some* in [there+*must*+be+some] to be referential to words or ideas mentioned in the co-text. Based on the above observation, we may say that the construction allows the speaker to extend the topic under discussion while at the same time invite other speakers' participation in the conversation. The following is one example where three speakers were talking about an incident involving the heart attack of a young athlete.

(4)  M1: <u>*there **must** be some*</u> *sort of condition (.)*
        *cos you know a young*
     F: *but the number of tests they have*
    M1: *fit guy like that*
     F: *you'd think they'd pick something up*
    M1: *no*
    M2: *mm (.) I'd have thought --*
        *UNCLEARWORD*
    M1: *the Premier League is saying they're gon na change procedures and make sure there are*
     F: *mm*
    M1: *more in-depth* (S35U)

In example (4), the construction introduced a subtopic, namely *condition*, which became the focus of the subsequent talk and allowed the conversation to continue. This construction expresses the speaker's strong assumption about the state of affairs under discussion. The epistemic sense of the construction is supported by information that the speaker provides in the co-text. The topic extending function of the construction is attested as we see speaker M1 so occupied with the subtopic that he seemed to be engaged in a monologue or self talk throughout the dialogue. At the same time, we also see other speakers being drawn into the new topic as they started to offer their thoughts on the issue. The finding is in line with Goldberg's (2006) observation that the meanings of high frequency items that fill in the schematic slots tend to resemble the meanings expressed by the constructions where they occur. That is, the fuzzy meanings associated with the objects that appear in [there+*must*+be+some] are compatible with the topic extending function of the construction. From the construction's frequent co-

occurrence with causal conjunctive *cos(because)* and hedges involving cognition verbs such as *I think*, *I don't know*, *I mean*, *I guess*, or *I suppose*, we may conclude that [there+*must*+be+some] is one representation of [*must*+be], whose meaning is more general and whose function is to facilitate human interaction. The features of [there+*must*+be+some] are summarized in Figure 2.

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Fun: TOPIC EXTENDING (topic → subtopic)
Form: *there must be some*

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Figure 2: [there+*must*+be+some] construction

### 4.3 The orienting function of [I+*must*+admit+I] construction

The first person *I* (Log: 823), second person *you* (Log: 249) and third person plural pronoun *they* (Log: 204) are the primary subject of the [*must*+Verb] construction. The construction is also distinct in the way the schematic slot is dominated by specific types of verbs, most notably *admit* and *say*. The verbs not only share similar meanings but their behaviors are also alike. Both [I+*must*+admit] (84 hits) and [I+*must*+say] (71 hits) enjoy very high token frequency and they correlate strongly with *I*, which fills in the slot following the verbs. Examining [I+*must*+admit+I], we found that the construction is typically preceded by a positive or neutral comment on the state of affairs in the prior turn but is usually followed by a strong opinion or disagreement incorporating the speaker's feelings (e.g., *disappointed*, *fed up*), conviction (e.g., *sure*, *convinced*), disposition (e.g., *dowdy*, *older*) or desire (e.g., *looking forward to*, *keen*) such as '*I must admit I don't think we get offer really frequently*', or '*I must admit I'm getting a bit fed up with it now*'. That is, [I+*must*+admit+I] performs an orienting function by directing the communicative partner's attention to an opposite view point or a negative remark that may sound disagreeable or upsetting. The following example demonstrates the function.

(5)  M: *I mean she came and she has some very lively discussions on the subject*
F: *yeah*
M: *>> you know we had some great days er but er (.) I must admit I'm sincerely disappointed at the result at the end of the day so now*
F: *>> mm* (S35K)

Earlier in the dialogue, the speakers were talking about the book that the male speaker was writing. The pleasant conversation however turned sour when the male speaker used [I+*must*+admit+I] to introduce his disappointment with the performance of an editor that he had hired to edit the book. We saw the construction change the mood of the discussion and catch the hearer's attention, who almost always responds to the construction with discourse markers like *mm* or *yeah*. This finding shows that the function of [I+*must*+admit+I] as a signal for a change of talk is well recognized by the interlocutors. The orienting function of the construction is further supported by observing the content of subsequent turns exchanged by the speakers, which often introduced detailed information about the negative remark. The construction thus plays a crucial role in guiding the communicative partner to predict the upcoming communicative event. Without it, the utterance may appear abrupt or incoherent. For instance, the omission of *I must admit I* in (5) *you know we had some great days er but er (.)'m sincerely disappointed at the result* would make the utterance self-contradictory or even confusing. It is also found that when the construction appears at the beginning of an utterance, it is often preceded by markers like *but*, *mm*, *well*, *er*, *yes*, or *yeah*, which indicates the speaker's readiness to launch a negative comment or counter argument. The meaning of the construction can be said to resemble 'damn it' in its strongest sense, 'sorry to say' in its moderate sense or 'forgive me to say' in its polite sense. The importance of [I+*must*+admit+I] as a cue for new orientation can also be verified by observing three instances where the construction appeared at the end of an utterance with some part of it contributed by another speaker. The following is one such example.

(6)  M: *just think like the (.) the longer you and -- ANONnameF can stick it out like this the better off you will be*
M: *yeah (...) it's fucking shit it's really tough I must admit*
F: *>> I am sure* (S2C9)

This use of [I+*must*+admit+I] substantially weakens its orienting function because the negative information has been introduced prior to the introduction of the construction. From the communicative partner's response, the meaning of this construction is more similar to 'right?' or 'don't you think so?'. In this context, the construction is used to reinforce the speaker's view point and to seek agreement or empathy. In sum, the tendency for [I+*must*+Verb+I] to include only a few types of narrowly defined items in the schematic slot of the construction is related to its unique function for conveying the speaker's sensibility or concern about the consequence of his or her utterance. The features of [I+*must*+admit+I] are represented in Figure 3.

Fun: ORIENTING (positive/neutral →strong
    opinion/disagreement/negative comment)
Form: *I must admit I*

Figure 3: [I+*must*+admit+I] construction

## 5. Discussion

In this study, we examined the functions of three major types of *must* constructions, namely [*must*+'ve/have], [*must*+be] and [*must*+Verb]. We conducted token frequency analysis and identified the central members of these constructions. The analysis of [she+*must*+'ve/have+been] resonates Cappelle and Depraetere's (2016) finding and confirms that the construction is associated with the epistemic sense of modality. We further identified the construction's association with a variety of structures such as prepositional phrases, nouns, adjectives, V-ing, or past participles. It is the semantics of these constituents that allow [she+*must*+'ve/have+been] to express assessment of a certain event in the past, depict the character in action or suggest the development of the event up to the present. Our finding also supported De Haan's (2012) insight about the correlation between impersonal subjects and epistemic modality in the spoken corpus. Furthermore, we uncovered the function of [there+*must*+be+some] to describe not just the possibility or the speaker's evaluation of events but a sense of urgency by the speaker to find the solution to a specific problem. The conversational analysis revealed that the construction played an important role in facilitating the transmission of information among multiple speakers. Specifically, it is used to develop subtopics which serve as links to the prior and subsequent utterances. This topic extending function of [there+*must*+be+some] typically occurs in a dynamic communicative context involving multiple speakers who use the construction to negotiate a turn or engage each other. Finally, we agreed with the previous literature and found [I+*must*+Verb+I] to be associated with the deontic sense of modality. The conversational analysis revealed that the construction primarily arises from the speaker's intention to assume responsibility for the potential negative impact produced by the utterance. This construction performs the interpersonal function to allow the speaker to voice his or her negative feelings or opinions while taking care of the possible tension that may be felt by the communicative partners.

## 6. Conclusions

The current study demonstrated the usefulness of a constructionist approach toward the analysis of modal meanings, which sees language as constructions at varying levels of complexity and abstraction. The measurement of type frequency and token frequency provides detailed information of *must* constructions. The combination of a constructionist approach and the conversational analysis allows us to gain a more comprehensive understanding of the meanings and functions of *must* constructions. The analysis of [she+*must*+'ve/have+been] and [there+*must*+be+some], two of the central members of [*must*+'ve/have] and [*must*+be], suggests that *must* constructions are used to conduct information exchange or the evaluation of events or conditions of certain individuals. While type frequency of [*must*+Verb] is not very high, its central member [I+*must*+admit+I] allows the speaker to minimize the negative impact brought about by the utterance so that social harmony can be maintained. In general, the present study has identified more detailed and comprehensive information of *must* constructions than what is broadly defined as dynamic, deontic, or epistemic sense. Nevertheless, the limited scope did not allow us to explore other important members in the *must* construction, for instance, verbs that fill in the slot in the [I+*must*+Verb] construction. Future studies may investigate the network of sister constructions to uncover more

details about their relationship. Alternatively, a similar approach may be taken to identify the multiple functions of other constructions which have modal verbs as part of their make-up.

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