

**SEMANTIC FUNCTIONS OF “OBLIGATION/NECESSITY” AND
“VOLITION/PREDICTION” MODALS IN MALAYSIAN ENGLISH TEXTBOOKS:
A CORPUS-BASED ANALYSIS**

Laleh Khojasteh¹

Nasrin Shokrpour²

Mohammad Rafatbakhsh³

(Corresponding author)

^{1, 2, 3}English department, Faculty of Paramedical Sciences,
Shiraz University of Medical Sciences, Shiraz, Iran

Abstract: *Based on prior studies suggesting that ESL Malaysian learners have some difficulties in terms of certain semantic functions of modal auxiliary verbs, this study assumed that there might be some inadequacies in the secondary school Malaysian English textbooks which could have caused these learners to be error-prone to modal structures. This assumption was based on the mismatch found in corpus studies between the language presented in prescribed textbooks and real language use. Accordingly, five modal auxiliaries under two categories of “obligation/ necessity” as well as “volition/prediction” modals were chosen to be analyzed in this corpus-based study. This study needed to be corpus-based because otherwise a great deal of information that could hardly be envisaged with the naked eye could have gone unnoticed. Therefore, WordSmith Tools 4.0 was used almost entirely for the purpose of investigating the semantic function of modals should, must, will, would and shall in the 280,000 running-word textbook-corpus consisting of five Malaysian textbooks. Apparently, the findings show that these textbooks overemphasize the minor semantic functions not really taking into account the frequent functions of modals used in present-day English. It is also argued that although there are invaluable insights available in terms of modal auxiliary verb forms and their semantic functions in major corpus-based studies, this real-life language has not been well presented in Malaysian English language textbooks.*

Keywords: *Modal auxiliary verbs, Prescribed textbooks, Corpus-based analysis, Pedagogic corpus*

Introduction

For any society, communication is considered an integral part and the most important means of human communication is language. However, to facilitate this communication among nations, the mechanics of language which includes the knowledge of grammar and structure has to be understood because without it communication will fail (Cowan, 2008). Modal auxiliary verbs

which are the focus of this study are a part of grammar and their expressions have always formed an important part of the grammar and semantics of most of the languages. Probably it is behind the reason why modality has a special place in grammar (Gueron & Lecarme, 2008). On the other hand, so much attention has been paid to modality because this structure is considered one of the most difficult grammatical structures among many ESL/EFL learners including the population we have focused on in our study, i.e. Malaysian learners.

There are nine central modal auxiliary verbs in English which are *will*, *would*, *can*, *could*, *may*, *might*, *shall*, *should* and *must* (Collins, 2009). These modal auxiliaries are believed to be among the most problematic grammatical items for non-native English learners (Celce-Murcia & Larsen-Freeman, 1999; DeCapua, 2008; Manaf, 2007); hence, their complexity for L2 speakers has become the focus of many investigations. Many like Palmer (1986, p.23) came to the conclusion that modal auxiliary verbs are “messy and untidy” and attributed this difficulty to modals’ semantic complexity rather than their syntactic one. Many semanticists have discussed modals as having two different functions of “epistemic” and “deontic” (Celce-Murcia & Larsen-Freeman, 1999; Papafragou, 2000; Portner, 2009; Reppen, et al., 2002). Reppen *et al.* (2002) differentiated between “epistemic” and “deontic” modality as the former is associated with true conditions and assessment of degrees of certainty whereas the latter expresses “obligation”, “intention” or “permission” (as in *We must be careful to avoid several logical pitfalls*). “Deontic” modality occurs when the situation referred to in the utterance involves some type of authority – as when a person or a set of rules or a social convention is responsible for the imposition of an obligation or granting of permission (as in *You must/may leave at 3pm*) (Reppen *et al.*, 2002). This makes modals polysemous (DeCapua, 2008), i.e. one form can express a variety of functions and one function can be expressed by several different forms. For example, *can* is used for making “ability”, “possibility” and “permission” while *must*, *should* and *ought to* can each express “obligation”.

Among all modal auxiliaries, the authors decided to only focus on five modals of *should*, *must*, *will*, *would* and *shall* among which *shall* and *would* are featured neither in the primary nor secondary school textbooks based on *Kurikulum Bersepadu Sekolah Menengah* (KBSM) syllabus in Malaysia. This decision was made based on two main reasons. Firstly, not enough attention has been paid to the semantic functions of “obligation/ necessity” and “volition/prediction” modals specifically in the textbooks’ corpus, and secondly, the analysis of Malaysian learner corpus revealed that these modals are among the ones that Malaysian learners have the most difficulty with (Khojasteh & Reinders, 2013). Hence, by asking “How are the semantic functions of “obligation/ necessity” and “volition/prediction” modals presented in Forms 1-5 Malaysian English language textbooks?”, this study is an attempt to fill these gaps.

Methodology

Participants and sampling

Five Malaysian secondary school English Language textbooks (Form 1-5) were used in this corpus-based study. This corpus consists of 280,000 running words and has been used in many significant corpus-based studies (Menon, 2009; Mukundan, 2004; Mukundan & Anealka, 2007; Mukundan & Roslim, 2009; Mukundan & Khojasteh, 2011; Khojasteh & Kafipour, 2012 to name a few), and the results have shed light on the lexical and grammatical structures that the secondary Malaysian students are exposed to in their classrooms.

Instruments

In this study, it was decided to use WordSmith Tools, version 4.0, because it has been recognized as an appropriate tool to support quantitative and qualitative data analysis by many researchers (Baker, 2006; Bondi, 2001; de Klerk, 2004, 2005; Flowerdew, 2003; Henry & Roseberry, 2001; Menon, 2009; Mukundan, 2004; Mukundan & Menon, 2006; Mukundan & Roslim, 2009; Nelson, 2001; Scott, 2001, and many more). This tool is a relatively small, but undoubtedly useful piece of software running on a personal computer. Three analysis tools of the WordSmith Tools program are Concord, WordList and Keywords. Concord was the tool mostly used throughout this study because of the qualitative nature of modals' semantic functions. This tool locates all references to any given word or phrase within the corpus, showing them in standard concordance lines with the search word centered and a variable amount of context at either side (Scott, 2001). It also allows further examination of finding collocates of the word and identifies common phrases through clusters (Mukundan, 2004). This concord program also shows dispersion plots, the maps, showing where in the texts the search words can be found (Scott, 2001).

Procedure and data analysis

As the focus of this study was on the meanings and communicative functions of five central modals, after coding the meanings of the modals, the corpus was analyzed quantitatively and qualitatively to determine the weight given to the assigned modal meanings in the textbook corpus. This study followed the possible meanings each modal could convey based on the description of modal semantic class by Biber et al. (1999). For example, *must* has a meaning of "obligation" which expresses an agent's responsibility to do something like in "We *must* get up early". Its other meaning relates to "logical necessity" which concludes that something is likely or necessary based on evidence available to the speaker/ writer such as in "She *must* have left already". These modal meanings were then categorized as (1) the "obligation/necessity," and (2) the "volition/prediction". Each of these categories was analyzed quantitatively and qualitatively

in each and every Form textbooks of 1–5. The summary of the results was then compared with those of the major corpus-based studies at the end of each section.

The analysis of data in this study was based on procedures carried out by various researchers (Holmes, 1988; Meunier & Gouverneur, 2009; Mindt, 1991; Nordberg, 2010; Romer, 2004), studying the grammatical features in textbook corpus.

Results

The “obligation/ necessity” modals

The expressions examined in this part are the modals *must* (embracing the forms *must* and *mustn't*) and *should* (*should* and *shouldn't*).

Table 1 Semantic distribution of the “obligation/necessity” modals in Forms 1–5 textbooks

	Modal	Meaning	Form 1	Form 2	Form 3	Form 4	Form 5	Total
1	Should	“Obligation”	88	36	97	105	119	445
		“Necessity”	1	1	1	-	-	3
		Indeterminate	16	3	2	16	-	26
2	Must	“Obligation”	28	53	37	46	75	236
		“Necessity”	1	1	3	10	9	28
		Indeterminate	7	23	20	10	10	69

The syllabus KBSM has assigned both *must* and *should* for the Malaysian ESL learners in Form 1, and for both modals, the “advice” (weak obligation) meaning has been stipulated. A total of 36 instances of *must* were observed, of which 28 (77.7%) were analyzed as (deontic) “obligation,” 1 (2.7%) as (epistemic) “necessity,” and 7 (19.4%) as indeterminate. *Should*, the more frequent of the two, has been observed in 105 instances, of which 88 concordance lines (83.8%) were tagged as (deontic) “obligation” with only 1 hit for “necessity” and 16 instances for indeterminate. In both cases, the (deontic) “obligation” meaning was considerably more frequent than the epistemic “necessity.” In the case of *should*, this tendency is more prominent than *must*. Examples (1) and (2) are Form 1 example sentences of “obligation” meanings for *should* and *must*.

Example: (1) We *should* do our part to help save the rivers.

(2) You *must* not play with fire in the house.

It is interesting to note that in both cases of *should* and *must*, indeterminate meanings outnumber their “necessity” meanings. Most of these modals occur in exercises where the lack of sufficient contexts of the sentences did not allow the researcher to tag them as either “obligation” or

“necessity,” or they were borderline cases that might have incorporated both “epistemic” and “deontic” elements. Sentences (5) and (6) are examples of indeterminate meanings of *should* and *must* found in Form 1 textbook.

Example: (5) Use the situations to decide whether you should use 'should' or 'must.'

(6) We make our advice 'stronger' or more emphatic by using the word 'must.'

As to Form 2, the syllabus of KBSM stipulated *must* and its socially oriented (deontic) “necessity” use for the Malaysian ESL learners. This socially oriented sense of *must*, taught explicitly to Form 2 students, refers to weak obligation that simply comes from the speaker’s sense of the importance of some action, such as in “we *must* go to school in time” or “we *must* be polite to people,” stated in the grammar box in Form 2. By far, the most frequent “obligation” meaning has been found to belong to *must*, with 53 instances. This popularity is followed by “obligation” *should*, with 36 instances. On the contrary, “necessity” meaning of *should* and *must* are in their minority with only 1 instance each. The example sentences (7) and (8) have been chosen among the only sample sentences, which could be found in the Form 2 textbook.

Example: (7) You *should* be able to find at least 15 words.

(8) The dancers immediately say that the ghost *must* have killed him.

Interestingly, many of the meanings in terms of *must* have been tagged as indeterminate (22 instances). Example (9) is the sample sentence of *must*, which appeared in the textbook exercises.

Example: (9) Then, write out the sentences using 'must' or 'must not.'

Repeatedly, for Form 3 textbook, the modal *must* and its “weak obligation” meaning has been stipulated by KBSM. Examples (10) and (11) show the self-imposed obligations with the first subjects portrayed in the instruction box in Form 3 textbook.

Example: (10) I must practice more.

(11) I must not give up.

As far as the distribution in Table 2 is concerned, the “obligation” sense of *must* (37 instances) is dominantly more frequent than its (epistemic) “logical necessity” sense (3 instances). In this study, both weak and strong “obligation” senses of *must* have been tagged as “obligation” at the beginning. However, as the weak “obligation” sense of *must* has been specifically assigned for this Form, we presumed that it would be interesting to carry out frequency count in this particular sense in Form 3 textbook. Out of the 37 instances, only 6 were observed to occur in the weak obligation sense for *must*. With regard to *should*, more overwhelming margin can be seen

for the (deontic) “obligation” and (epistemic) “logical necessity” senses of *should*, with 97 instances for the former meaning and only 1 instance for the latter. Furthermore, the shares for logical necessity meanings of *should* (1%) and *must* (5%) are fairly low in Form 3 textbook.

Should and its weak obligation (advice) sense is the only modal and the only meaning that has been stipulated by KBSM for Form 4 students. The “obligation” meaning of *must* can be regarded as the primary one with 46 instances (70%), while “obligation” *should* (105 instances) is the most frequently occurring modal form in this category. “Necessity” meaning for *should* is absolutely zero, while *must* and “necessity,” although far less common in Form 4, still comprises 19.6%. While no single instance for the “necessity” meaning of *should* could be observed, 16 cases of *should* that occurred in either the example sentences or instruction sentences could be noted.

Neither *should* nor *must* have been stipulated in Form 5 textbook. A total of 190 instances were identified as “obligation” meaning for both *should* and *must*. Of this number, 119 (62.6%) cases occurred in *should* and 71 (37%) in *must*. As Table 2 shows, no instances were found for the “necessity” meaning of *should*. Even a closer analysis of the exercise sections provided no examples of “necessity” *should* in any of the exercise sentences. In addition, *must* and “logical necessity” were found to have a fairly low share (19 instances) in the textbook. Furthermore, Form 5 textbook database was found to contain few concordance lines in which the meanings have been tagged as indeterminate for *should* and *must*.

The “volition/prediction” modals

In this section, we have dealt with the results regarding “volition/prediction” modals *will*, *would*, and *shall*. The expressions examined in this section also embrace the forms of *'ll*, *won't*, *will not*, *wouldn't*, *'d*, and *would not*.

Table 2. Semantic distribution of the “prediction/volition” modals in Forms 1–5 textbooks

	Modals	Meanings	Form 1	Form 2	Form 3	Form 4	Form 5	Total
1	Will	“Prediction”	105	105	143	166	224	743
		“Volition”	52	33	18	6	28	137
		Indeterminate	20	19	3	1	2	45
2	Would	“Prediction”	17	10	41	45	77	190
		“Volition”	48	33	32	38	46	197
		Indeterminate	1	3	1	1	-	6
3	Shall	“Prediction”	-	-	8	3	1	12
		“Volition”	2	3	-	-	-	5
		Indeterminate	2	2	-	-	-	4

In Form 1 textbook, KBSM stipulated *will* to express (epistemic) “future plans” as well as (dynamic) “request” sense of *will* as in “*will* you teach me how to use the computer?”. While the relative frequency for (epistemic) “prediction” meaning of *will* was about 105 instances (86%) in Form 1, this distribution turned upside down in the case of “prediction” *would*, with only 17 instances (13.9%). On the contrary, the (dynamic) “volition” *will* has been considered as a secondary meaning with 52 (52%) instances, whereas “volition” *would* is observed to be the primary meaning with 48 instances (48%). *Shall*, in contrast, is a minor modal. Out of a total of four modals of *shall*, no instances have been found for its “prediction” meaning, whereas “volition” *shall* is found in 2 instances, and 2 instances are also tagged as indeterminate.

Future-tense *will* is the only function that is explicitly discussed in Form 2 textbook. Despite their somewhat different (epistemic) “prediction” frequency occurrences, *will* and *would* (dynamic) “volition” meanings are exactly the same (30 instances each). However, while the relative frequency of “prediction” *will* is quite high in Form 2 textbook (105 instances), “prediction” *would* is relatively scarce (10 instances). With regard to *shall*, it could be noted that there are no “prediction” meaning depicted in the data, and its “volition” meaning is rather infrequent as well (3 instances).

Similar to Form 2, *will* has been stipulated for Form 3 textbook to express future plans, and similar to its prior Forms, in Form 3 textbook also *will* is quite frequent in its (epistemic) “prediction” sense with 143 instances. When compared with the same meaning for *would*, we can see that in this Form, the “prediction” meaning (41 instances) has slightly outnumbered its “volition” sense. With regard to “volition” meaning, as shown in Table 3, this meaning is much more frequent in the case of *would* (64%) rather than *will* (36%). “Prediction” *shall* is the only meaning favored in Form 3 textbook, with 8 instances.

For Form 4 textbooks, none of the “prediction/volition” modals has been assigned by KBSM. There is an extreme gap between the (epistemic) “prediction” and (dynamic) “volition” meanings of *will* in Form 4 textbook. Of all the 173 cases of *will*, 166 instances (95%) bear the “prediction” sense, while (dynamic) *will* has a minor meaning in the data (3%). On the other hand, the frequency of the occurrence of “prediction” and “volition” meanings of *would* is relatively similar (45 and 38, respectively).

Finally, for Form 5, KBSM stipulated the modal *will* that expresses future plans. With regard to *will*, we can state that this modal is primarily an exponent of (epistemic) “prediction” (88%), approximately 8 times as many as for (dynamic) “volition” meaning (11%). Sentences (19) and (20) are examples of *will* with “prediction” and “volition” meanings from the textbook.

Example: (19) We *will* have more time for our families and for leisure.

(20) I'm sorry, Dr Manjeet is on the phone right now. If it's all right, I *will* wait.

A similar pattern is also noted for “prediction” and “volition” *would*, but with a marginal gap (77 and 46 instances, respectively). “prediction” *shall* is the only meaning expressed in the only existing sentence in Form 5 textbook, as follows:

Example: (21) I *shall* be more careful about what I discard from now on.

Discussion

There were altogether 474 instances of *should*, of which 445 (93.8%) were analyzed as (deontic) “obligation” and only 3 instances (0.6%) as (epistemic) “necessity.” Therefore, it is clear that *should* in the textbook data predominantly denotes “obligation/advice” than “necessity.” This tendency is consistent with the findings of Biber et al (1999), who reported that not only in conversation, but also in academic prose, *should* usually marks “obligation” rather than “logical necessity.” Similarly, Leech et al (2009) noted that *should* and its “obligation” sense are moving towards monosemy in the present-day English. However, it can be argued that lack of concrete numbers reported by previous corpus-based studies makes it difficult to judge on the weight that should be given to the necessity meaning of *should*. Therefore, without a reliable scale, we cannot really conclude if the “obligation/advice” sense has been overused at the expense of “necessity.” Although this, to a certain degree, can be considered as an unfair judgment, only 3 instances for “necessity” meaning, as opposed to 445 instances for “obligation/ advice”, can hardly be considered as a fair portrayal of different functions of *should*. Furthermore, as noted by Conrad (2000), rare grammatical features can have important discourse functions in particular registers. This case can easily be observed in the spoken British National Corpus analyzed by Romer (2004) and the exact concrete numbers reported by her. According to Romer (2004), although the frequency count of “obligation” *should* outweighs its “necessity” meaning, the difference is only about 30%. In this regard, we can state that the necessity meaning of *should* is probably underused in the case of Forms 1–5 Malaysian English language textbooks.

With regard to *must* and its (deontic) “obligation” as well as (epistemic) “logical necessity” meaning, we can clearly see in Table 2 that there is a noticeable discrepancy between their use in real English language use and ESL Malaysian textbooks. Of the 333 frequency counts for *must*, 236 instances (70.8%) make the “obligation” sense and 28 (8.4%) make the “necessity” sense. However, this tendency is not in line with the results obtained by Biber et al (1999), who showed the popularity of “necessity” meaning over its “obligation” meaning, particularly in conversation. In fact, in accordance with this tendency, Leech et al. (2009) reported that “obligation” *must* is nowadays avoided, especially in spoken registers, probably because of its forcefulness. However, according to Biber et al. (1999, p. 495), the explanation in line with the rarity of “obligation” sense of *must* is “probably the strong directive force this modal has when used in face-to-face interaction.” Therefore, we can observe that the textbook corpus data show the exact reverse trend that makes us believe that there is a bias towards “obligation” *must*.

If we compare the “obligation” meaning of *must* and *should*, we can see that *should* is much more popular bearing the “obligation” meaning as opposed to *must*. This finding is in line with those of Biber et al. (1999) regarding the higher frequency of “obligation” *should* over *must*, both in academic prose and conversation. In terms of *should* and “necessity,” we can state that this meaning has given way to *must* in the present time English. According to Biber et al. (1999), not only in conversation, but also in academic prose, “necessity” *must* is much more frequent than its equivalent meaning in *should*. Therefore, we can see that textbooks of Forms 1–5 have, in general, portrayed a correct tendency regarding the “necessity” sense of the modals *should* and *must*.

However, a rather one-sided picture portrayed by Malaysian English language textbooks with regard to the “volition/prediction” modals has been found. As shown in Table 3, the “prediction” sense is emphasized considerably more than the “volition” meaning of *will* within the Forms 1–5 textbooks. On comparing this tendency with the results from corpus-based studies, it is apparent that there is a mismatch between the weights that should be given to these two meanings. Biber et al (1999), for example, listed the two meanings as almost equally frequent, with “prediction” meaning gaining the advantage with only a very small margin. On the whole, we can state that the percentages of “prediction” *will* are much higher than the actual one, especially in the case of Form 4 textbook, where the gap between the two meanings is so overwhelming that no other meanings have ever been so much biased (166 and 6 instances, respectively). Surprisingly, with regard to *would*, the equal emphasis given to both “prediction” and “volition” meanings of *would* within Forms 1–5 corroborate exactly with the findings of Biber et al (1999) and Romer (2004). Although there are fluctuations in terms of the frequency distribution of these two meanings in different Forms (Forms 1–5), there are fair amounts of exposure to “prediction” and “volition” *would* within the five years of lower and upper secondary school.

Although very rare in frequency, we can still observe the lack of fit between what has been reported in corpus-based studies and what is found in the Malaysian English language textbooks in terms of *shall*. In the majority of cases (57 out of 102, i.e. 56%), *shall* indicates “prediction” and it rarely expressed “intention.” Based on the findings of Biber et al. (1999), we can clearly see that although *shall* is the least frequent modal, the personal “volition” sense of *shall* is still more commonly used than its “prediction” meaning. According to Romer (2004), the “volition” meaning of *shall* is among one of the most important meanings (with 65%) in the BNC data evaluation of Spoken English. Mindt (1995) as well as Romer (2004) have placed *shall* on top of the list of modals in interrogative context, despite Leech’s (2004) claim of infrequent use of *shall* in recent years.

Conclusion

The aim of this study was to examine the extent to which “obligation/ necessity” modals as well as “volition/prediction” ones are portrayed accurately in five Malaysian English Language textbooks (Forms 1–5). It is concluded from the findings of this study that these five textbooks seem to offer somehow one-sided picture of the above-mentioned modals because they were relatively overemphasized by minor semantic functions rather than their quite frequent functions in the present-day English. Our finding was in line with other corpus-based studies which have focused on modal auxiliaries in textbooks of Germany and Finland (Romer, 2004; Nordberg, 2010). This type of mismatch found between the language in textbooks and the real language in use, according to Hyland (1994), Holmes (1988), and McEnery and Kifle (2002), misleads our learners in terms of modal auxiliaries’ semantic functions and their frequencies. It is suggested our EFL teachers and most important of all syllabus designers to take necessary actions while teaching or designing textbooks considering modal auxiliary verbs.

Pedagogical implications

It is recommended that textbook authors should focus their prime attention on distribution of forms, functions, and contexts of modal auxiliary verbs in real language use (Mindt, 1995). If this is the case, then, for example, *would* should be taught explicitly, because they are among the four most frequent modals used by native speakers (Quirk, Greenbaum, Leech, & Svartvik, 1985; Biber et al. 1999; Romer, 2004, Kennedy, 2002). In addition, although corpus-driven studies report a rare frequency of *shall* (see Biber et al., 2002), this should not necessarily mean that we should neglect it. According to Romer (2004), the prediction meaning of *shall* is among one of the most important meanings (31%) in BNC data evaluation of Spoken English. In addition, rare grammatical features can have important discourse functions, in particular registers; hence, it is important that decisions about pedagogy be based on corpus linguistics by considering functional descriptions and frequency information and analyses of students’ needs (Conrad, 2000). Furthermore, students should be exposed to the full array of meanings that modals can have. It has been suggested that when reading, if words are repeated at least seven times over spaced intervals, they stand a good chance of being remembered (Thornbury, 2002). So recycling various aspects of the target structures including modal auxiliary verbs over a period of time would be our general recommendation.

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