Abstract: Since modal auxiliary verbs have been proved to be one of the most troublesome grammatical structures in English, the researchers of this study decided to do an analysis on the ways in which advanced EFL Iranian students use modal auxiliaries focusing specially on nine modals’ semantic functions. Consequently, was conducted based on the following object: To investigate the semantic functions depicted by modals used by advanced adult EFL learners of English. To do this, a learner-corpus was constructed with 136 compositions written by our learners and then Wordsmith Tool was used to analyze this computerized data. The results of this study show that some meanings are overly used (like “ability” meaning of can) and some of them are not really used by our learners like the “possibility” meanings of can and could. At the end, some pedagogical suggestions have been made to improve this situation.

Key words: modal auxiliary verbs, semantic functions, learner corpus

1. Introduction

The definition of modality has not yet been fully agreed upon in various linguistic schools despite its long existence. However, in this study various definitions of modality provide a useful place to start. In simple terms, according to Huddleston & Pullum et al. (2002, p. 173) modality is defined as the speaker’s verdict about the “necessity” and “possibility” of subjects. Likewise, Quirk et al. (1985) assert that modality is how speakers decide on the genuineness of the topic. In accordance with this, Palmer (2001) claims that modality is the subjective opinion of speaker towards the topic. Modality is regarded by Halliday (1970) as the way that makes it possible for the speaker to interfere and take up a viewpoint in the speaking incident. In modality, this has been termed as “interpersonal function” by Palmer (1986, p.25). According to the theory of various language functions, proposed by Halliday (1994), interpersonal function highlights the interactive connection between the speaker and addressee’s attitudes and conduct more than other function.

Considering the various definitions of modality, it can be concluded that semanticists are yet seeking for what is the same between modal expressions. According to Depraetere and Reed (2006, p. 269), particularly, “non-factual” features which require all modal utterance to state un-factual circumstances is absolutely the same between all modal expressions. As Collins (2009, p.11) states, so far, all the suggested definitions accept that modality consists of various semantic notions such as: “possibility”, “necessity”, “ability”, “obligation”, “permission”, and “hypotheticality”. Distinct means of verbal and non-verbal forms can be utilized to express these notions (Halliday, 1970). Through non-verbal forms, which is the major point of this research, modal auxiliaries, which are utilized as markers to encrypt the speaker’s perspective, for example, when he/she states something he/she believes is reasonable; or may be obvious, or tentative, code modality (Stubbs, 1996). Therefore, modals are utilized in writing and speaking; first to improve interaction and second as a tool for expressions which are related to form opinions, understandings, purposes, obligations, free will and other associated notions (Leech, 1987; Quirk, Greenbaum, Leech, Palmer, 1990).

2. Modals’ semantic function and L2 learners

Semantic associates with the sense of the lexical, while syntax pertains to the shape of the lexicals, (Palmer, 1990). Auxiliary modal verbs have several semantic functions due to the fact that one modal may have various meanings and occasionally one meaning can be related to various modal forms.
(Khojasteh, 2011, p.21). On the basis of Biber et al.’s (1999) description of modal semantic category, present study pursues the possible senses which every modal could impart. As Biber et al. (1999) proposed, modals can be divided into three main categories based on their major meanings (cited in Khojasteh, 2011, p.22):

“1) “permission/ possibility/ ability”: can, could, may, might
2) “obligation/necessity”: must, should
3) “volition/ prediction”: will, would, shall”

Classification of the semantic functions of modals with details has been demonstrated below in Table 1.

Table 1. Biber et al.’s (1999) Description of modal semantic class

<table>
<thead>
<tr>
<th>Meaning</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CAN</strong></td>
<td>evidence of some condition that determines whether an agent is or is not permitted to do something</td>
<td>We can have cake. (conv, LSWE)</td>
</tr>
<tr>
<td>1. Permission</td>
<td>express the degree to which something is possible: inanimate noun/dummy it + can + linking verb + adjective/ noun phrase; or Inanimate noun + can + main verb</td>
<td>We can have cake. (conv, LSWE)</td>
</tr>
<tr>
<td>2. Possibility</td>
<td>evidence of an animate agent that is capable of doing something</td>
<td>We can have cake. (conv, LSWE)</td>
</tr>
<tr>
<td>3. Ability</td>
<td>express the degree to which something is possible</td>
<td>We can have cake. (conv, LSWE)</td>
</tr>
<tr>
<td><strong>COULD</strong></td>
<td>evidence of an animate agent that is capable of doing something in the past</td>
<td>We could have cake. (conv, LSWE)</td>
</tr>
<tr>
<td>1. Permission</td>
<td>used in its past tense to refer to permission</td>
<td>We could have cake. (conv, LSWE)</td>
</tr>
<tr>
<td>2. Possibility</td>
<td>express the degree to which something is possible</td>
<td>We could have cake. (conv, LSWE)</td>
</tr>
<tr>
<td>3. Ability</td>
<td>express the degree to which something is possible</td>
<td>We could have cake. (conv, LSWE)</td>
</tr>
<tr>
<td><strong>MUST</strong></td>
<td>express an agent’s responsibility to do something</td>
<td>We must do something. (conv, LSWE)</td>
</tr>
<tr>
<td>1. Obligation</td>
<td>Logical concludes something is likely/necessary based on evidence available to the speaker/ writer</td>
<td>We must do something. (conv, LSWE)</td>
</tr>
<tr>
<td>2. Necessity</td>
<td>express the degree to which something is possible</td>
<td>We must do something. (conv, LSWE)</td>
</tr>
<tr>
<td><strong>SHOULD</strong></td>
<td>the agent is obliged to do something</td>
<td>We should do something. (conv, LSWE)</td>
</tr>
<tr>
<td>Meaning</td>
<td>Definition</td>
<td>Example</td>
</tr>
<tr>
<td>---------</td>
<td>------------</td>
<td>---------</td>
</tr>
<tr>
<td><strong>2. Necessity</strong></td>
<td>Logical concludes something is likely/necessary based on evidence available</td>
<td>That <em>should</em> have been Sydney (textbook)</td>
</tr>
<tr>
<td><strong>MAY</strong></td>
<td>expressing agent’s doubt in the truth of proposition (Coates, 1983) or slight possibility</td>
<td>So you <em>may</em> not see it as a joke. (conv, LSWE) That <em>may</em> be wrong, though. (conv, LSWE) It <em>may</em> rain tomorrow. (conv, LSWE)</td>
</tr>
<tr>
<td><strong>1. Possibility</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2. Permission</strong></td>
<td>refers to present or future time when used to ask for permission or to make a polite request and giving permission to the agent</td>
<td>Please <em>may</em> I go to the toilet? (conv, LSWE) You <em>may</em> do some maths if you want to (conv, LSWE) You <em>may</em> do your language work if you want to. (conv, LSWE)</td>
</tr>
<tr>
<td><strong>MIGHT</strong></td>
<td>expressing agent’s doubt in the truth of proposition</td>
<td>It <em>might</em> rain tomorrow. (conv, LSWE)</td>
</tr>
<tr>
<td><strong>1. Possibility</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2. Permission</strong></td>
<td>refers to present or future time when used that the agent was permitted to do something</td>
<td>She said <em>I might</em> go. (conv, LSWE)</td>
</tr>
<tr>
<td><strong>SHALL</strong></td>
<td>make predictions that are not completely a fortnight from Wednesday 29 August.</td>
<td>We <em>shall</em> be away on holiday for certain or definite</td>
</tr>
<tr>
<td><strong>1. Prediction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2. Volition</strong></td>
<td>express intention</td>
<td>I <em>shall</em> help you.</td>
</tr>
<tr>
<td><strong>WILL</strong></td>
<td>make predictions that are not completely certain or definite</td>
<td>Gas prices <em>will</em> drop soon.</td>
</tr>
<tr>
<td><strong>1. Prediction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2. Volition</strong></td>
<td>express immediate decisions or intention</td>
<td>“And then I’ll take you home to get it.”</td>
</tr>
<tr>
<td><strong>WOULD</strong></td>
<td>is used for future time reference when there is a sense of possibility or capability. It is generally regarded as a weaker alternative to will when used in this sense.</td>
<td>The President is proposing a new bill that would significantly change Social Security.</td>
</tr>
<tr>
<td><strong>1. Prediction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2. Volition</strong></td>
<td>express immediate decisions or intention</td>
<td>I <em>would</em> give it back (conv, LGSE) I <em>would</em> just read the book as well. (conv, LGSE)</td>
</tr>
</tbody>
</table>
As it could be seen from the table, modal auxiliary semantic system is enormously complicated for L2 learners because the same modals sometimes are used to express different functions like that of "probability", "possibility" and "certainty", and of "inclination", "ability", "permission" and "obligation". The difficulty non-native language learners are facing in terms of semantic function of modal auxiliaries can be seen in both EFL and ESL settings. For example, at studies Wong (1983), Rosli and Malachi (1989), Manaf (2007), Khojasteh and Rainer (2013) have conducted regarding the use of modal auxiliaries and Malaysian learners, they all revealed that students were uncertain about which modals to use to express modality in their sentences, and this could easily be seen in the inaccuracy of modals at the syntactic and specifically semantic levels. In India too, Bose (2005) conducted the similar study and reported that Indian students had major difficulty producing modals from different aspects. In Sweden, Aijmer (2002) reported that Swedish students tended to overuse modals, lack enough knowledge about register-interference aspect of modals and at last lack of enough information about modal phrases and larger sentence patterns. In another study conducted by Viana (2006), the results showed that Brazilian students, too, wrote the compositions in a non-proficient way in terms of modal auxiliaries and had major problems producing them. The countless difficulties non-native students face in terms of modal auxiliaries have been reported by well-known linguists such as Thornbury (1999); Celce-Murcia and Larsen-Freeman, (1983); Wong, (1983) and Hoye, (1997), yet not many learner-corpus studies have covered the root of these difficulties by L2 learners with different nationalities. To the knowledge of the researchers of this study, no one has done a learner corpus study to investigate wether Iranian learners are familiar with various semantic functions of modal auxiliaries. Consequently, this study is conducted based on one single question: What are the semantic functions depicted by modals used by advanced adult EFL learners of English?

3. Methodology

The design of this corpus based study is discourse analysis using mainly a qualitative technique to analyze the data. In this study, 136 adult advanced learners were randomly selected to write a 150-200 word composition on the topic of “The Happiest Day of My Life” in which students had a choice to either describe a nonfiction happy day they had in the past or fiction, such as myth and short story in which the subject matter is imaginary. The students wrote their compositions in the class and they were supervised by their own teachers and the researcher in order to facilitate any needs they might have. Then all their written texts were typed and converted into a Tagged Image File (TIF) format. The txt files were then saved and renamed according to the respective student’s writing composition. To analyze these txt files, the WordSmith Tools, Version 4.0, was used; the three analysis tools of the WordSmith Tools program are Concord, WordList and Keywords. The validity of this corpus software has been done by many researchers formerly worked with this tool including Reppen (2001). In this particular study to investigate modals' semantic functions only Concord tool was used because this tool which produces a full concordance allows the search word or node which here is the modal auxiliary verb appear in the middle of the line with the co-text on either side of the keyword (span), enabling the researcher to study the node in its context. To judge what each modal auxiliary means in each context, this tool was the perfect tool because it also allowed the researchers to filter the non-modal sense of words such as May (the fifth month of the year), can (as noun and verb) and will (as noun and verb) manually. A sample shot of this learner corpus for what we can see for our research question is provided in Figure 1.
After seeing the modals in their context, the researchers then coded the meanings of the modals based on the following codes:

A: "ability"
Per: Permission
Poss: Possibility
O: Obligation
N: Necessity
Pred: Prediction
V: Volition

It is worth mentioning that since this coding was done by a human coder, inter-coder reliability was applied to raise the validity of data analysis. For this purpose, the intercoder worked independently and took one and a half months to code the entire data. When the researchers and the intercoder were done with their coding, the intercoder reliability was run using SPSS statistical package. The intercoder reliability in this study was checked with Cohen Kappa which measures agreement of categorical data. Cohen’s (1960) k (kappa) is the most popular coefficient of rater agreement. Kappa has a range from 0-100, with higher values indicating better reliability. The Cohen’s k value for this study was 95%.

4. Results

What are the semantic functions depicted by modals used by advanced adult learners of English?

According to this study, semantically-accurate sentences with modals are defined as sentences that convey the accurate meaning according to the functions of the modals used.

"Ability / Possibility / Permission" modals

Based on Collins’s (2009) classification, “ability” sense in this study was based on an agent that has or had the potential to perform actions. “Possibility” meaning refers to the speaker’s lack of knowledge as to whether or not the proposition is true (Collins, 2009) and it often sounds like deductions or
conclusions made by the speaker (Wu, 2008) like in *He can’t be there*. And finally, “permission” sense in this analysis refers to the socially-based power that “binds the subject to do the action expressed in the proposition” (Wu, 2008, p. 161) like in *Yes, you can choose it freely* and *May I leave now?*

Table 2 Semantic distribution of the "ability / possibility / permission" modals

<table>
<thead>
<tr>
<th>Modal</th>
<th>Meaning</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Can</td>
<td>“ability”</td>
<td>73</td>
</tr>
<tr>
<td></td>
<td>“possibility”</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>“permission”</td>
<td>9</td>
</tr>
<tr>
<td>2 Could</td>
<td>“ability”</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>“possibility”</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>“permission”</td>
<td>0</td>
</tr>
<tr>
<td>3 May</td>
<td>“possibility”</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>“permission”</td>
<td>0</td>
</tr>
<tr>
<td>4 Might</td>
<td>“possibility”</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>“permission”</td>
<td>1</td>
</tr>
</tbody>
</table>

As it can be seen in Table 2 with regard to *can* and *could*, the tendency of “ability” to be regarded as primary, “possibility” to be secondary, and “permission” to be tertiary can be observed. *Can* with 73 instances (78.49%) is dominantly used as “ability” while its “possibility” and “permission” meanings account for 11.82% and 9.67% of all *can* tokens respectively. Similarly, *could* has been mainly used for “ability” meaning (69.66%) and its “possibility” with 27 instances (30.33%) is less commonly used by EFL advanced learners.

Examples (1) to (6) are sample sentences of “ability” and “possibility” meanings of *can* and *could* found in this learner corpus.

(1) At first I want to say that I have not a lot of days like that, so I *can* speak about this in summer or in future. (Ability meaning)
(2) I’m not in legal age for driving but I *can* drive a car next year. (Ability meaning)
(3) I *can* get very bad stomachache from eating too much. (Possibility meaning)
(4) My father *can* be very angry if he understand it. (Possibility meaning)
(5) Finally we arrived Mashhad. I *could* visit Emam Reza. (Ability meaning)
(6) Swimming was very good too but it *could* be dangerous. (Possibility meaning)

As for the permission meaning of both modals of *can* and *could*, we can see in Table 2 that there are only 9 instances for this meaning used for *can* and not even one instance for the modal *could*. Examples (7) and (8) are sample sentences of “permission” meaning of *can* used in this learner corpus.

(7) My teachers said your mother *can* sit near you today.
(8) And I always asked my mother when *can* I go there? She said me: you should be calm.

In case of “possibility” and “Permission” meanings of the modals *may* and *might*, we can see from the Table 2 that *may* has been exclusively used for its “possibility” meaning (100%) while surprisingly *might* has been used once for its “permission” meaning. The only example that we can see the “permission” meaning of *might* can be seen in a sample sentence below.

(9) I asked my father: *might* I borrow your key? He answered no.

**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).
As it can be seen in Table 3, *Should*, the more frequent of the two, has been seen in 63 instances, of which 63 concordance lines (100%) have been tagged as “obligation,” and 0 hit for “necessity” meaning. A total of 12 instances of *must* have been observed, of which 11 (91.66%) have been analyzed as “obligation,” and 1 (8.33%) as “necessity”. Examples (10), (11) and (12) are sample sentences of modals *should* and *must.*

(10) I *should* be patient and learn her lots of things. (Obligation meaning)

(11) my sister told me you *must* keep this secret because we want to surprise our mother (Obligation meaning)

(12) it *must* be my present for accepting in konkour. (Logical necessity meaning)

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. It is worth mentioning that this study decided not to follow some traditional scholars (e.g. Declerck, 1991; Huddleston, 1995) who still argue for the treatment of will merely as a marker of future tense. First, according to Palmer (1990), the modal will belongs to a formal modal system and not to the morphologically marked tense system of present and past. Second, Leech (2004) is skeptical about the whole concept of futurity and separated modality, and believes “we cannot be as certain of future happenings as we are of events in the past and present, and even the most confident prediction about the future must reflect something of the speaker’s uncertainty and so be tinged with modality” (p.56). Hence, although will is dominantly considered and explicitly taught as a future marker in many textbooks, in this study, it has been considered and tagged as a subcategory of (epistemic) “prediction.” In this regard, “prediction” will can be considered as a “confident prediction about the typical behavior of someone or something” (Nordberg, 2010, p. 57). With regard to “volition,” any will, would, and shall that expresses immediate decisions or intention is tagged as “volition” in this learner corpus data.

As it can be seen in Table 4, out of 78 instances of modal will, 58 of them which accounts for 74.35% of all will tokens stands for “prediction” meaning and the rest which accounts for 25.64% belongs to “volition” meaning of will. Similarly, “prediction” meaning of would has been used more than its “volition” meaning (61.76% and 38.23% respectively). Finally, shall has neither been used for its “prediction” nor its “volition” meanings. The sample sentences of “volition” meaning of will and would can be seen in the following extracts taken from our learner corpus.

(13) If you ask me do you like go there again? I *will* tell you yes and if I could not go here I become sad.
Suddenly a nice guy neared us and told me will you marry me "wow", so I got surprised so much and didn't know what to say exactly.

Would you come with me, I have a surprise for you.

5. Summary and Discussion

The results of the semantic analysis on the “permission/possibility/ability” modals show that EFL advanced learners have a great tendency to use “ability” meaning of the modal can (78.49%) while its “possibility” meaning (11.82%) is not favored. If we compare this finding with the findings of major corpus based studies, we can say that this finding is not in agreement with many of them. For example, according to Biber et al. (1999) “ability” and “possibility” meanings of can are equally frequent not only in spoken but also written English. This has also been supported by Kennedy (2002) who studied modal auxiliaries in BNC and reported that both meanings are very frequently used in written register.

Looking at could, we see the similar tendency of over using the “ability” meaning of could (69.66%) while the “possibility” meaning has not been used frequently (30.33%). This finding again does not support the findings of other studies because it seems that between three different meanings of could, ability, possibility and permission, it is logical “possibility” meaning that is most common among native speakers (Biber et al., 1999). The fact that “possibility” meaning of could is more prevalent than its other meanings have been supported by Collins (2009) in the British component of the International Corpus of English (ICE-GB), by Kennedy (2002) in the similarities found in spoken and written British English Corpus, and by Romer (2004) in British English corpus.

Regarding may and might, we see that in both cases “possibility” meanings are predominated by their “permission” meanings. This finding has been supported by many scholars in the sense that these two modals are the main exponent of “possibility” in English. For example, according to Biber et al. (1999) may and might are more used to mark logical “possibility” rather than “permission” in academic prose. In addition, in the case of might, its minor meaning of “permission” is extremely rare according to Biber et al. (1999) and Romer (2004).

There were altogether 63 instances of should, of which 63 (100%) were analyzed as “obligation”. Therefore, it is clear that should is mainly understood as “obligation/advice” than as “necessity” by our EFL advanced students. This result agrees with the findings of Biber et al. (1999), who reported that in academic prose, should usually marks “obligation” rather than “logical necessity”. This has been supported by Leech et al. (2009) who claimed that this sense of should, “obligation/advice”, is becoming monosemous in modern English.

In the case of must, we can see the similar tendency between the two meanings. It means that like should, “obligation” meaning of must is more dominant over its “necessity” meaning. However, this finding is in contrast with the findings of Biber et al. (1999) and Leech et al. (2009) who reported that “obligation” must is not really favored in modern English probably because of its forcefulness nature.

Come to report the third group, “Volition/prediction” Modals, we saw that “prediction” meaning of will is dominated by its “volition” meaning (74.35% and 25.64% respectively). However, this finding is not supported by Biber et al. (1999) who reported that in written English the two meanings are almost as equally frequent as “prediction” meaning with the latter gaining the advantage with only a very small margin. But as we can see in our finding, the “prediction” meaning of will is much more frequent in EFL advanced students’ compositions. The same tendency can be seen for would which again does not support the findings of Biber et al. (1999) and Romer (2004).

Last but not least is the modal shall which has not been used even once by our EFL advanced learners. This finding does not support the findings of Biber et al. (1999) and Romer (2004) who claimed that “volition” shall is still more commonly used. However, our finding supports Leech’s (2004) who reported that shall has become very infrequent in recent years.

6. Conclusion and pedagogical implications

Since grammar is a very important component in learning and teaching a second language and due to the existence of many problematic areas in terms of modal auxiliary verbs, this study intended to see if
advanced Iranian EFL learners are competent enough to use various semantic functions of modals. Doing that, the interpretation that we can make from the results of this study is that some meanings are overly used (like “ability” meaning of can) and some of them are not really used by our learners like the “possibility” meanings of can and could. So it is very important to draw our learners’ attention to other pragmatic functions of modals. Not fully grasp modals’ interpersonal meaning, our advanced Iranian learners might face difficulty in social circumstances as Celce-Murcia and Larsen-Freeman (1983) reported that it is not surprising when some L2 speakers are perceived as being abrupt and aggressive, for example, when they request something in given social circumstances.

Therefore, it is very important to insist on repeating modal auxiliaries throughout different levels in order for the students to fully grasp their various meanings (Thompson, 2002). Knowing how weak or strong our students are in terms of any grammatical structure specifically modal auxiliary verbs, is mainly fruitful for EFL teachers who want to make sure that students particularly advanced students who may soon get the diploma of a language centre and are expected to be proficient in English are competent enough outside classroom walls where they have to use natural English using multimedia or while travelling to English spoken countries. Finally, teachers, textbook writers, researchers and students will find this study applicable. Among these beneficiaries, such findings could serve as an eye-opener to researchers and may drive them to carry out further examination on the matter.

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