

A PRAGMATIC ANALYSIS FRAMEWORK FOR THE DESCRIPTION OF MODALITY USAGE IN ACADEMIC ENGLISH CONTEXTS

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In our pragmatic approach to research articles (RAs), we take a look at one of the main characteristics of academic writing: the use of modalized statements. Modalization, in the form of modal verbs, has been extensively studied by ESP researchers and practitioners. Most of their studies, however, have slightly touched upon the distinction between epistemic modality, which questions the certainty or probability of a statement, and deontic modality, which lays obligations or gives permission to the audience. This dichotomy is an important tool to describe disciplinary variations in academic and professional writing. We contend that different disciplines favor different types of modality. Results in this study indicate that health science RAs mostly use epistemic modality, whereas literary criticism RAs combine the use of both epistemic and deontic modality.

1. Introduction

Within the pragmatic linguistic paradigm, genre analysis, as defined by Swales (1990) or Bhatia (1993), is a major approach in the current state-of-the-art study of English for Specific Purposes (ESP). In this line of research, much attention has been given to the definition of some specially relevant genres, such as abstracts (Cremmins, 1982; Lancaster, 1991; Posteguillo, 1996b). A number of studies have focused on RA structure (Hutchins, 1977; Stanley, 1984; Swales, 1990; Nwogu, 1997; Bhatia, 1993; Posteguillo, 1996a, 1999; Piqué & Andreu-Besó, 2000), on individual sections of the RA, such as the introduction (Swales, 1981; Dudley-Evans & Henderson, 1990; Piqué & Andreu-Besó, 1998); the results section (Brett, 1994); the discussion section (Hopkins & Dudley-Evans, 1988; Holmes, 1997) and including other discourse functions within the RA, such as the use of citations and references in RAs (Dubois, 1988; Lynch & McGrath, 1991), on RA argumentation (Hyland, 1990; Thompson, 1993), to name but a few.

Research articles --as the more deeply analyzed academic genre-- have been already been studied to unfold some of the most salient disciplinary variation to be detected. However, most of these studies have focused on whether the IMRD pattern is applicable to all disciplines as the representative macrostructure of the genre. We have also pursued this line of research in previous studies when, for instance, describing the semi-applicability of the *introduction-method-results-discussion* (IMRD) pattern to computer science research articles (Posteguillo, 1999), or the appropriateness of Swales' (1990) CARS introduction pattern for medical and nursing research articles (Piqué & Andreu-Besó, 1998, 2000). It is true that these macrostructural descriptions represent a major feature of RAs as a genre, but there are other linguistic and communicative phenomena which differentiate the research article from other genres which have not been analyzed in such detail, especially having in mind disciplinary variation.

Our aim in this paper is to analyze the language of three different academic and professional contexts (health sciences, journalese and literary criticism) in order to detect possible variations in the use of epistemic or deontic modality and to compare our results with those obtained by Simpson. Our initial hypothesis is that different disciplines or professional settings favor different types of modality.

2. Corpus and analysis

Mood and modality express the speaker's attitude or opinion regarding the contents of the sentence or what the sentence proposition entails (Palmer, 1986: 21). He defines mood as realized by the verbal morphology, whereas modality appears as a linguistic feature generated by a variety of linguistic phenomena, as described by Downing and Locke (1992: 383-384), among which modal verbs play a special role. Both Palmer (1986: 18-19) and Downing and Locke (1992: 382) distinguish two main types of modality: epistemic and deontic.

Epistemic modality implies that the speaker assesses "the probability that the proposition is true in terms of the modal certainty, probability or possibility" (Downing & Locke, 1992: 382), as in *It may be the case that ...*, *Results might change if certain conditions ...*, or *The*

concert must be over. On the other hand, deontic modality means that the speaker “intervene[s] in the speech event by laying obligations or giving permission” (Downing & Locke, 1992: 382), as in *One must look into this matter in detail...*, or *Shall we negotiate peace now?*

In our research we gathered three distinct corpora: first a corpus of health science RAs (with 30,086 words) made up of different RAs dealing with AIDS, cancer and surgery; a second corpus of newspaper articles (with 30,481 words) dealing with all types of topics downloaded from *The Guardian*; and a third corpus of literary criticism RAs (with 30,042 words) dealing with American and British literature from a selection of essays. The names of the authors, the titles of the articles --or headlines--, as well as the tables, pictures or figures have been eliminated.

We are aware that corpus 2 is made of a genre (i.e. newspaper articles) other than the RA, but we believe in the relevance of comparing the use of epistemic and deontic modality across three distinct academic and professional settings --health sciences, journalese and literary criticism. On the other hand, the differences --should there be any-- between corpus 1 (health sciences) and 3 (literary criticism) can only be explained in terms of disciplinary variations in the use of modality.

In each corpus we have systematically considered the modal verbs *can*, *could*, *may*, *might*, *must*, *ought*, *shall*, *should*, *will*, *would*, and the two semimodal verbs *dare*, *need*, as defined by Downing and Locke (1992: 315-316).

3. Results

Tables 1, 2 and 3 below offer the results obtained in our investigation. The data from the health sciences corpus is presented in Table 1. On the left-hand column one may see the modal and semimodal verbs analyzed; on the second column we have the number of times which a particular verb has been used in that corpus; column three shows the frequency (f) of use of the modal verb with epistemic meaning; column four gives the relative percentage (%) of use of epistemic modality; column five shows the number of instances (f) in which the verb was used

with deontic meaning, and, finally, column six gives the corresponding relative percentage (%) of deontic usage. Tables 2 and 3 below are organized in the same way.

Table 1. Epistemic and Deontic Modality in Corpus 1.

	1-Health Science-RAs				
	Total Modals	Epistemic		Deontic	
		f	%	f	%
<i>can</i>	124	123	99.19	1	1.01
<i>could</i>	31	31	100	0	0
<i>dare</i>	0	0		0	
<i>may</i>	125	125	100	0	0
<i>might</i>	20	20	100	0	0
<i>must</i>	17	15	88.23	2	2.27
<i>need</i>	30	28	93.33	2	2.14
<i>ought</i>	0	0		0	
<i>shall</i>	0	0		0	
<i>should</i>	49	41	83.67	8	9.56
<i>will</i>	30	30	100	0	0
<i>would</i>	24	24	100	0	0
Totals	450	437	97.11	13	2.97

According to these results, the use of deontic modality is almost non-existent in health sciences RAs representing only 2.97% of the total modal and semimodal verbs. It is also noticeable that many of the modals and semimodals show a 100% of epistemic usage. Such is the case of *could*, *may*, *might*, *will* and *would*, as illustrated in the following examples:

- (1) *If all cells that harbored HIV **could** quickly be destroyed in this manner, the virus might be cleared from the body.*
- (2) *What's more, the immune system, in killing off infected cells, **may** play a significant role in its own destruction.*
- (3) *On the basis of these findings, researchers have developed theories on how HIV **might** indirectly destroy nerve tissue.*

- (4) *This process **will** allow for the identification of those measures which hold the most promise of moving the field forward and of critical gaps that persist in the HIV HRQoL measurement arena.*
- (5) *Most clinicians **would** probably agree that this amount of difference would be a clinically significant difference.*

The results obtained in texts from The Guardian are shown in Table 2. Epistemic modality continues being the main type of verb used by journalists (91.20%), although a slight increase is present in regard to verbal expressions with a deontic orientation (8.80%).

Table 2. Epistemic and Deontic Modality in Corpus 2.

2-Journalism—The Guardian					
	Total Modals	Epistemic		Deontic	
		f	%	f	%
<i>can</i>	64	52	81.25	12	18.75
<i>could</i>	41	39	95.12	2	4.88
<i>dare</i>	0	0		0	
<i>may</i>	22	21	95.45	1	4.55
<i>might</i>	10	10	100	0	0
<i>must</i>	22	14	63.64	8	36.36
<i>need</i>	19	19	100	0	0
<i>ought</i>	1	1	100	0	0
<i>shall</i>	0	0	0	0	0
<i>should</i>	39	35	89.74	4	10.26
<i>will</i>	112	111	99.11	1	.89
<i>would</i>	79	71	89.87	8	10.13
Totals	409	373	91.20	36	8.80

The modal verb *must*, however, presents a particularly interesting change. While in health sciences this verb was used as an epistemic modalizing device (cf. Table 1), in journalism it combines epistemic (63.64%) with deontic (36.36%) meaning. We want to illustrate this use in the following two examples from corpus 2 in which the modal verb *must* is

presented in this double modalizing function: epistemic in example (6) and deontic in example (7).

- (6) *As it is, the shower of Grammys and BPI awards that Telboy earned from his 1987 debut album now seems a long time ago, and he finds himself in what **must** be a slightly uncomfortable limbo.*
- (7) *'What you did that evening in Mrs Longden's flat was a disgraceful exhibition of uncontrolled bad temper which split over into the commission of a crime for which you **must** be punished.'*

Corpus 3, from literary criticism essays, present the most striking differences. As shown in Table 3, the pattern of epistemic/deontic usage is reversed with modals *must* and *shall*, both of which are more frequently used in deontic modalizing expressions than in epistemic ones. It should be pointed out, however, that although the modal verb *shall* may not be particularly relevant, since it only appears in 7 instances, the modal verb *must*, with 58.62%, confirms the double function of this modal.

Table 3. Epistemic and Deontic Modality in Corpus 3.

	3-Literary Criticism Essays				
	Epistemic		Deontic		
Total Modals	f	%	f	%	
<i>can</i>	61	37	60.66	24	39.34
<i>could</i>	23	17	73.91	6	26.09
<i>dare</i>	0	0		0	
<i>may</i>	26	20	76.92	6	23.08
<i>might</i>	29	27	93.10	2	6.89
<i>must</i>	29	12	41.38	17	58.62
<i>need</i>	7	5	71.43	2	28.57
<i>ought</i>	5	5	100	0	0
<i>shall</i>	7	1	14.29	6	85.71
<i>should</i>	10	8	80	2	20
<i>will</i>	55	37	67.27	18	32.73
<i>would</i>	36	31	86.11	5	13.89
Totals	288	200	69.44	88	30.56

The following examples illustrate once more this double function of *must*, in this case in the field of literary criticism: epistemic, in example (8), while deontic in (9).

- (8) *The effort of accurate transcription involved **must** have been heroic. But exactly what the utility of the exercise was I, for one, have never understood.*
- (9) *If we want to understand America, you **must** realize that the greatest love is this homoerotic passion, which is in some ways as strong, though also as sublimated, as Dante's love for Beatrice.*

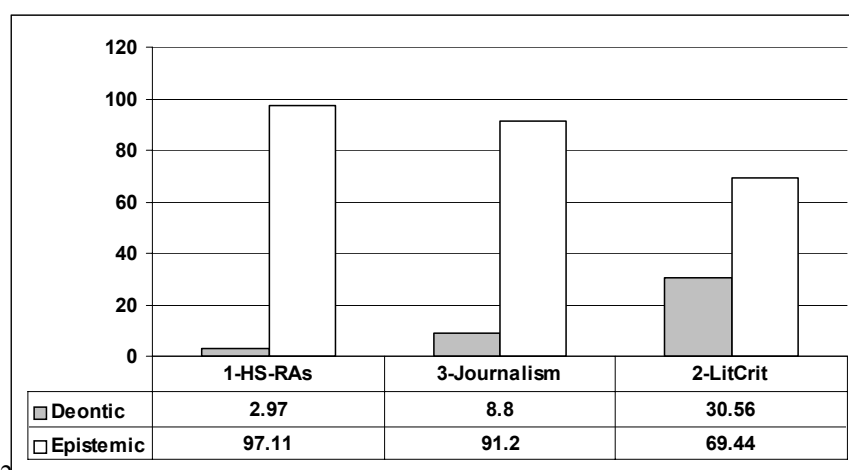
It should also be pointed out further differences in the use of modal verbs, especially in reference to corpus 3 (journalism) as compared to corpus 1 (health sciences). Five modal verbs –*could*, *may*, *might*, *will*, *would*– in corpus 1 showed a permanent use of epistemic modality. In corpus 3, however, these same five modals present several instances of

deontic modalization, as can be seen in the following examples from journalism texts:

- (10) *There's a famous essay by Mark Twain, which is called 'The Literary Offenses of Fenimore Cooper', in which he points out that Cooper couldn't build a novel. His structures are pitiful; he **couldn't** write dialogue.*
- (11) *It is, one **may** think, a relief that more records do not remain, since if they did, and if McKenzie transcribed them as assiduously as he does those for 1696-1712, his history of the press would run to 120 quarto volumes.*
- (12) *In a superficial and simplified way (which reaches, nevertheless, as far as we **might** wish to extend it, and with all of the nuances which are considered necessary), literature is a product of human activity ...*
- (13) *And this takes me back to my beginning which **will** also be my end.*
- (14) *But I **would** like to take this as far as possible.*

This progressive but evident increase in the use of deontic modality is shown in Figure 1 below which graphically summarizes the results shown in Tables 1, 2 and 3. In turn, epistemic modality use is close to 100% in corpus 1, it slightly diminishes in corpus 2, but there is a significant decrease in corpus 3.

Figure 1. Epistemic vs Deontic Modality in the Three Corpora (in %).



4. Discussion

The results that have just been presented in this research confirm our first hypothesis in which we ventured that different disciplines favor different types of modality. This is especially so in the case of health sciences and literary criticism research articles. These two specialisms, as exemplified in corpora 1 and 3, quite similar in size and genre, represent two different uses of modal verbs in terms of epistemic and deontic modality. While in health sciences (corpus 1) seems to be practically the only acceptable option for the writer, in literary criticism both options seem to be equally resorted to by their authors. Their communicative purpose seems to dictate the use of a given modal verb through which they express their epistemic or deontic meaning. These findings open a whole new area of linguistic and sociolinguistic research and makes us pose the question whether the communicative purpose of an essay in literary criticism differ from the communicative purpose of a medical researcher/writer. This may very well be the case.

Simpson (1990) noticed the tendency of literary critics to be highly assertive in their statements. He described instances of unmodalised assertions in the text he studied --*The Great Tradition*, by F. R. Leavis. Simpson quotes Leavis' (1950: 1) opening statement as a typical example of unmodalized assertion:

- (15) *The great English novelists are Jane Austen, George Eliot, Henry James and Joseph Conrad—to stop for the moment at that comparatively safe point in history.*

Simpson's study, however, has the shortcoming of having analyzed only one text and, accordingly, the writing of only one literary critic. In addition, he does not provide specific quantitative data. Our analysis of the writing of different literary critics confirms that literary criticism reduces the use of modals in comparison to other academic disciplines. It also confirms that when literary critics do use modals they may do so in either epistemic or deontic assertions. This allows us to suggest that the combination of deontic modality and epistemic modality is

a representative feature of, at least, research articles in literary criticism, whereas health sciences researchers may only resort to epistemic modality in their RAs.

Our research has indeed a limited scope, since only one linguistic modalizing device is being analyzed. Modality is a complex linguistic phenomenon and it cannot be reduced to how modal and semimodal verbs are used by the writer. We believe, however, that the use of modals is highly representative of the type of modality which a certain discourse community may prefer. Further research in literary criticism RAs may look into several of the other modal resources of language (namely, lexical verbs, modal disjuncts, modal adjectives, modal nouns and other linguistic devices) to confirm whether the tendency of incorporating deontic modality to this realization of academic English is to be considered a significant distinct feature of this type of EAP.

It should be underscored, nonetheless, that the description of disciplinary variations in academic English has an important pedagogical applicability in EAP teaching, especially in terms of selecting and designing materials and textbooks adapted to each specific discipline, i.e. English for medicine, English for computer engineers, English for chemistry, etc. The more it is known about the specific features of English in different academic and professional settings, the more adequate teaching materials will be designed. The epistemic/deontic dichotomy may be one of the many linguistic features to be tested across various disciplines to systematically unfold disciplinary variation at large.

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