The Role of Passive Voice in Hedging Medical Discourse: a Corpus-based Study on English and Spanish Research Articles

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The appropriate use of hedging in scientific discourse is a vital skill for writers presenting their knowledge in an academic discourse community and much work has therefore been done on this relevant feature, especially on its use in the rhetoric of specialized texts in English. Some authors believe that there are considerable differences in styles of writing in particular cultures (e.g., see Connor and Kaplan 1987, Mauranen 1993b and Valero-Garcés 1996). But not until very recently and mainly as a result of the growing interest in contrastive rhetoric has Spanish language been studied as well. In this paper I will examine the range of expressions in English and Spanish medical research articles that are commonly known as hedging. Although hedging typical realisation might be considered to be the modal verb forms, they are not the only devices available. In our research, we have also considered the role of passive voice in modulating specialized discourse. This study based on a corpus of 10 Research Papers (RP) in English and 10 RP and 10 Case Reports (CR) in Spanish sets out to find reasons behind the existence of a wide range of hedging realisations. Drawing upon Swales (1990) genre analysis framework, it will be shown that hedging features are related to linguistic forms through functional and conventional associations. Thus, showing the factors influencing the choice of expression we will explain the meanings conveyed by each realisation and expose the similarities and differences between Spanish and English hedging devices in medical research papers. Key words: Discourse analysis, hedging, cross-linguistics and LSP.

1. Introduction

One of the main features of specialized written discourse is the formal use of language, which aims at establishing an interaction among equals. This inter-professional dialogue is usually set in very polite and "humble" terms. And it is known that by using certain rhetorical strategies, such as *hedges* one avoids a possible rejection from members of the same discursive community. As Pérez-Llantada Auría (2003:30) states:

> The pragmatics of discourse makes necessary the author's acceptance of limitations, thus showing humility, sincerity in the piece of writing. (…) Together with the use of persuasive style, technical discourse also complies with the pragmatic criterion of appropriateness, in the sense of adaptability- or rather, formality- of style to the audience addressed. One of the most systematic features for showing politeness in academic writing are the well-known "hedges" or "hedging devices" (Kress&Hodge, 1979; Salager-Meyer, 1994)

Concepts like mitigation, politeness, "vagueness" or "lack of precision" seem to be related to the theoretical background in the investigation of hedging. We must say that this rhetorical phenomenon has been studied from very different perspectives: a) pragmatics, b) logics, c) semantics, d) rhetorics and d) stylistics and has been applied in the research of general and academic communication as well as intercultural. And it is because of the above mentioned range of applications

that *hedging* presents a difficulty in terms of terminology as there are many denominations to describe the same rhetorical device. According to Hyland (1998: 184):

> Hedges are linguistic elements such as perhaps, might, to a certain extent, and it is possible that. In other published works, such elements are also occasionally called **weakeners** (Brown&Levinson, 1978), **downtoners** (Holmes, 1982; Quirk, Greenbaum, Leech&Starvick, 1972), **detensifiers** (Huebler, 1983), and **understatements** (Huebler, 1983). Whatever they are called, however writers use them to signal a tentative or cautious assessment of the truth of referential information. In doing so, writers reduce the "degree of liability" or responsibility that they might face in expressing referential information (Huebler, 1983:18)

1.1. Difficulties in L2 hedging

Despite the claim "Hedges are a resource, not a problem" (Skelton, 1988:39), we could say that non native speakers of English (NNs) may encounter serious difficulties in modulating their scientific discourse appropriately. Mostly because of their lack of awareness of the epistemological system L1 and consequently, their weakness in linguistic ability in a foreign language.

This faulty modulation has been studied by Makaya & Bloor (1987), Bazerman (1988), Casanave & Hubbard (1992) and Hyland (1998), among others. And from the results of the above mentioned studies, we can conclude that *hedging* is a very complex phenomenon for learners of English as a second language and, especially, for those who write "science". Therefore, NNs who publish in English and expect an approval from their colleagues should pay "special attention" to meet the requirements of the scientific journals. Not to mention that a faulty modulation in NNs discourse could be perceived as a sign of writer's arrogance or even prepotence, and rudeness (in his/her claims) by the rest of the scientific community.

Following Hyland's (2002:5) observations, we could confirm that despite being such an important rhetorical device as hedging is, it is a rather difficult strategy to acquire, especially, in a second language:

> In other words, hedges are typically used to assist persuasion and are found where the news has to be distinguished from the assured and where authors have to evaluate their assertions in ways their readers are likely to find convincing. (…) Despite the significance of hedging, however, proficiency in this area appears to be difficult to achieve in a foreign language.

According to the literature available on this matter it seems that some of the main difficulties NNs face while hedging their discourse are:

• a single expression can convey several meanings

• *hedging* can be expressed in many different ways

• NNs may be confused because of intercultural differences in terms of the expression of doubt and certainty (L1vs L2)

• NNs generally lack information about this rhetorical phenomenon

In the following section we are going to deal with one of the most frequent limitations of NNs : the faulty perception of objectivity and subjectivity in scientific discourse.

1.2. Hedging and scientific objectivity & subjectivity

As we all know, the scientific subject or agent of an action tends to be omitted in the scientific discourse. But why?

A possible reason for that could be the writer's will to achieve the maximum objectivity (according to the way of thinking that seems to guide scientific work). Thus, from a traditionally perspective we could generally say that objectivity means that: a) the author and the reader cannot be easily identified and b) any reference either to the writer's or to the reader's subjectivity would destroy the objectivity of any scientific text as it is the object not the subject what really matters.

This tendency to hide or "postpone" the human subject in the action can be explained from another characteristic of scientific language: the lack of the emotional factor. By hiding subjectivity in professional discourse, language does not seem to have any trace of emotivity, only focused on the cognitive aspects which are the object of science.

Authors like Bungarten (1989) or Benês (1981) have studied this "detachment" of scientist and science and, among other strategies, it is the use of the passive voice or the 3rd person plural the most frequently used in search for completeness, acurateness, economy of information and generalisation in discourse. But the impersonal presentation of contents it is not an easy task, as Salager-Meyer (1994:151) states in the following quotation:

> After all, scientific rationality is a myth, as Gilbert and Mulkay argue (1984), and science has always oscillated between the desire to be precise and the impossibility of quantifying (accurately) the world. (This is why scientists' eagerness for accuracy is very often frustrated.

Following this author's ideas, *hedging* could be described as a tridimensional concept which implies: a) vagueness and intentional fuzziness, b) author's modesty in terms of own achievements and personal implication and c) impossibility or unwillingness to reach an absolute precision nor quantify all the observed phenomena.

In the following section we are going to describe the methodology we followed in order to study *hedging* from a cross-generic and a cross-linguistic point of view, mainly focusing on the the role of passive voice in modulating specialized discourse.

2. Methodology

In order to carry out this study, we developed a corpus of 10 Research Papers (RP) in English and 10 RP and 10 Case Reports (CR) in Spanish.[1] The criteria we followed for the selection of the texts included: a) their genre (RP/CR), b) written by native speakers, c) recent publication and d) high impact factor of the journals. We created such as corpus in order to obtain a selection of texts comparable

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[1] All full-texts had been recently published and were selected from a range of outstanding scientific journals. In English: *British Medical Journal* (BMJ), *Chest* or *Critical Care Medicine*, among other sources. In Spanish: *Archivos de Bronconeumología*, *Medicina Clínica* or *Revista de Cardiología*.

with the ones previously used in other studies of the same kind (see Salager-Meyer 1994 or Hyland 1998) and thus, be able to perform a contrastive analysis with their results.

After creating the corpus of our study, we followed the below mentioned steps so as to carry out our contrastive[2] analyses:

1. Creation of a hedging Taxonomy (developing categories for each possible realization of *hedging* found in our corpus and taking into account not only the linguistic forms but also the pragmatic and discursive functions of this rhetorical device).

2. Qualitative and Quantitative analyses of *hedging* (observing different types according to their form and function, frequency and distribution according to the genre or the language of the text).

3. First, an *Intra-Rater Reliability study* (to develop an accurate categorization of hedging) and later an *Inter-Rater Reliability study* (to determine the degree of reliability in such categorization or taxonomy.

4. Comparison of intergeneric and interlinguistic results to draw conclusions on the possible differences or similarities of hedging across genres and languages.

2.1. Hedging Taxonomy proposal

In the following lines we present our *hedging* taxonomy proposal based on previous studies[3] of this rhetorical device. First, in our study we have established some pragmatic categories according to the function that hedging carries out in discourse: a) *shields*, b) *approximators*, c) *expressions of author's doubt and involvement and direct implication* and d) *agentless strategies*. Secondly, we have assigned a pragmatic category to one or more similar functions. Thirdly, we have indicated the linguistic level (lexical/morphological/syntactical) of the linguistic items included per category.

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2   Contrastive in terms of cross-linguistics (Spanish vs English) and cross-generic (Case Report vs Research Paper).

3   We refer here to the studies carried out by Salager-Meyer (1994, 2003) and Hyland (1998, 2003).

Table 1. Hedging Taxonomy proposal (Oliver del Olmo, 2004)

PRAGMATIC CATEGORIES	FUNCTIONS IN DISCOURSE	LINGUISTIC ITEMS	LINGUISTIC LEVEL
1. SHIELDS	To protect the subject and anticipate negative feedback or the so called "boomerang effect". Allows scientists to present their knowledge cautiously and introduce claims (Salager-Meyer, 1994)	**1.** a)modal verbs b)semi-auxiliaries c)probability adjectives d)probability adverbs e)epistemic verbs	
2. APPROXIMATO RS	To make things vague and to indicate probability. It is related to the author's avoidance of personal involvement and the impossibility of reaching absolute accuracy (Salager-Meyer, 1994)	**2.** Adjectives and/or adverbs of: a) quantity b) degree c) frequency d) time Non personal forms*	LEXICAL

3. AUTHOR'S PERSONAL DOUBT & INVOLVEMENT	To emphasize the interpersonal dimension: evaluate & assess one's material and negotiate the status of one's claims. Encourages dialogue with the audience and facilitates discussion. (Hyland, 1998)	a) conditional b) 1st person markers	**MORPHOLOGICAL**
4. AGENTLESS STRATEGIES	**1)** They are used to modify or even hide the author's attitude towards the content. (Lewin, 1998) **2)** To fulfill academic conventions, to seem more precise, more scientific. (Salager-Meyer, 2003)	a) agentless passive b) despersonalisation (active verbs with inanimate subjects and nominalisation)	**SYNTACTICAL**

In the following section we will describe the results obtained in our quantitative and qualitative analyses of *hedging*, focusing mainly on our fourth pragmatic category.

3. Results

In all our pragmatic categories we obtained a high correlation percentage[4] both in the preliminary *intra-rater reliability study* and in the later *inter-rater reliability study* in Spanish. However, by following the same procedure in our English corpus we observed no correlation between the native rater (English) and the non-native rater (Spanish) in our fourth category: *agentless strategies*.

It is curious to observe how the perception of the same *agentless strategy* is perceived differently according to the nationality of the evaluator. In other words, although the first three categories were quite well-defined and cut-clear, in this fourth category there was not any consensus in its pragmatic interpretation between the two raters. Despite the fact that in previous studies, such as Hyland (2003) or Salager-Meyer (2003) it is observed the use of the passive voice, and nominalizations as *hedges*, our native rater perceive those realizations as passive voice used to help the theme-rheme flow not *hedging*.

A possible difference between the first three categories and the fourth could help us understand the above mentioned results. A difference in terms of the former (*shields, approximators, expressions of doubt and author's involvement*) being more interpersonal, more subjective and more reader-oriented and the latter being more textual, less subjective and more content-oriented. According to Hyland (1996:444) these writer-oriented *hedges* may be more difficult to be detected:

> Writer-oriented hedges often accent procedures and methods of science, a feature
> less salient in other forms of hedging. Indeed, reference to methods, the models
> employed, or the conditions under which results were obtained are an important
> means of hedging personal commitment.

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4   **Shields**, **Approximators** and **Agentless Strategies** obtained a correlation of 99% of reliability or p-value £ 0.01 and **Expressions of personal doubt and involvement** a 95% of reliability or p-value £ 0.05.

4. Conclusions and Discussion

Despite the negative results of the intended correlation in our inter-rater reliability study of *hedges* in our fourth category of *agentless strategies*, we must not ignore the importance of our findings:

  a) two raters from different nationalities with English as L1 and L2 respectively may perceive the author's intention in discourse rather differently (perhaps because of the different academical background in terms of scientific tradition),

  b) the author's intention in the text and the reader's perception may not coincide. For that purpose in a further study we might select some of the examples already found in our corpus, show them to "real"scientists and ask them how they perceive them: 1) as an author trying to protect himself/herself from a possible "attack" from the discursive community he/she belongs or 2) a more defensive attitude, willing to "take the fight" and state one's claims with conviction.

The following quotation by Clemen (1997:244) illustrates this duality in hedging:

> Despite, or perhaps, because of their mitigating effect, hedges can increase the credibility of a statement (e.g. in academic texts). It is in this sense that hedging is better seen in the scope of discourse analysis as opossed to its narrower semantic aspect as prototypical modifier.

To conclude this discussion about our fourth pragmatic category of *hedging*, we would like to mention that Campos (2003:235) states that the use of impersonal marks in scientific discourse cannot only be justified because of the "neutrality" requirement of academic conventions but also as an argumentative strategy in general. Therefore, in further research, we may explore this potential duality of meaning in *hedges* from a more ethnographic perspective.

Acknowledgements

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