

A GENRE-BASED INVESTIGATION OF ABSTRACT WRITING IN ENGLISH AND SPANISH

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ABSTRACT

In scientific writing the choice of certain rhetorical strategies is determined by the particular configuration of the social interaction between writers and readers. These rhetorical options may vary across language cultures, disciplines and academic genres. This paper investigates whether English and Spanish writers show differing preferences for strategies in research article abstracts in the field of social sciences. The main focus is the frequency of occurrence and distribution of epistemic modality in each rhetorical unit of the abstracts in both languages. The results show that the distribution of modality varies similarly in both languages, although the frequency of use of epistemic modality is significantly higher in the English texts. Thus, the incidence of certain structural units and modality expressions in academic genres would appear to have a relationship to socio-cultural factors.

KEY WORDS: Contrastive rhetoric, disciplinary cultures, academic genres, abstracts, epistemic modality, Spanish

RESUMEN

En el discurso científico la elección de ciertas estrategias retóricas para establecer reivindicaciones científicas está determinada por la configuración particular de la interacción social entre los escritores y la audiencia. Estas opciones retóricas pueden presentar variaciones entre lenguas, disciplinas y géneros académicos diferentes. En este artículo se investiga si los académicos en inglés y español manifiestan preferencias distintas en el uso de estrategias retóricas para la redacción de los *abstracts* de los artículos científicos en el campo de las ciencias sociales. Este estudio se ha centrado en el análisis de la frecuencia de uso y la distribución de la modalidad epistémica en cada una de las unidades retóricas que constituyen los *abstracts* en cada lengua. Los resultados demuestran que, en ambas lenguas, la distribución de expresiones de modalidad varía de forma similar, aunque la frecuencia de uso de la modalidad epistémica es significativamente mayor en los textos en inglés. Parece que la frecuencia de uso de ciertas unidades estructurales y de las expresiones que denotan modalidad, está relacionada con factores socio-culturales.

PALABRAS CLAVE: retórica contrastiva, culturas disciplinarias, géneros académicos, modalidad epistémica, español



1. INTRODUCTION

Researchers in ESP have become increasingly interested in using genre as tool for analysing and teaching the textual features required by non-native speakers of English in academic and professional settings. Since the seminal work on research article (RA) introductions by Swales (1981, and then revised and amplified in 1990) there have been many studies of the different sections of the scientific article (e.g. Hopkins & Dudley-Evans, 1988; Brett, 1994; Holmes, 1997; Williams, 1999, among others). This approach has been extended to other academic genres such as Master of Science dissertations (Hopkins & Dudley-Evans, 1988), business letters and textbooks (Bhatia, 1993 and 1998). Rather less attention has been paid to analysing the discourse features of languages other than English although, over the last decade, there has been an increasing number of cross-cultural studies comparing English academic writing to other languages such as Chinese (e.g. Taylor & Chen, 1991), Finnish (e.g. Mauranen, 1993), Czech (e.g. Čmejrková, 1996), Polish (e.g. Duszak 1997), and many others. Researchers in contrastive studies of English and Spanish academic genres from different disciplines are also showing a growing interest in this area as can be seen in the work by Valero-Garcés (1996), Moreno (1997), Burgess (1997, 2002), Martín-Martín (in press) and Salager-Meyer et al. (in press).

Despite the tendency towards uniformity in scientific writing published in the English-speaking world, contrastive studies, such as those mentioned above, have demonstrated the existence of discourse variation across language cultures. This comparative enterprise can be seen as dating back to Kaplan's oft-cited (1966) study. Kaplan, it will be recalled, posited a series of rhetorical patterns which, he argued, reflected the preferences of particular language groups. Kaplan's paper can be read as presenting a Whorfian view of the relationship between culture and thought, in that logic and rhetoric are seen as interdependent and as culture specific. Traditional contrastive rhetoric research carried out in the wake of Kaplan's study saw each language group as possessing differing rhetorical conventions. Such a position also sees culture-specific conventions as interfering with writing in the second language.

Authors such as Clyne (1987), Mauranen (1993) and Valero-Garcés (1996), on the other hand, consider that variation in the rhetorical preferences of writers may be promoted by educational systems, and by varying intellectual styles and attitudes to knowledge and content rather than by the language itself. Hinds (1990), among others, has noted that the rhetorical differences across languages may have their origins in socio-cultural, historical, socio-political and situational variables. Similarly, Taylor & Chen (1991), in their comparison of the introductions to papers written by three groups of scientists (Anglo-Americans writing in English and Chinese writing in English and Chinese) found that rhetorical variations characterised the discipline rather than the language used or language background of the writers. Along the same lines, Burgess (1997, 2002) compared the published output of Spanish-speaking linguists writing in both their first language and English to that produced by English native speakers. Her results showed that not all academics



from the same national group share a body of discourse norms. Burgess found variation across all groups of texts, thus indicating that socio-pragmatic factors have a more important role in variation in discourse structures than language used or language background. For Burgess the most important of these factors is the relationship between writers and their audiences.

All these cross-cultural studies of academic genres can be seen as contributing to our understanding of which aspects of academic discourse are subject to the restrictions of the writing conventions of the genre and the discipline, and which aspects are susceptible to socio-cultural or socio-pragmatic factors.

The RA abstract is a particular genre which has always aroused great interest due to the important role it fulfils for the scientific community. The value of abstracts is evidenced by the fact that most scientific journals and conferences require an abstract from contributors. Salager-Meyer (1990), Bhatia (1993) and Santos (1996), among others, regard abstracts as independent genres with the explicit function of informing readers of the content of the associated paper, thus indicating whether the full text merits their further attention. Several studies (e.g. Graetz 1985, Salager-Meyer 1990, Kaplan et al., 1994) have revealed that many abstracts represent, in condensed form, the macro-propositions of the accompanying articles. Hyland (2000), nevertheless, has argued that this representation is essentially selective. For Hyland, the function of abstracts is not merely to inform the reader, but to highlight important information and present the main knowledge claims. All this is done in a bid to persuade the audience to read the whole article. It is thus that abstracts can be seen as fulfilling an important social function and as 'a rich source of interactional features that allow us to see how individuals work to position themselves within their communities' (Hyland, 2000:63). In the process of publishing the results of research, abstracts constitute, after the paper's title, the readers' first encounter with the text, and it is here that writers have to demonstrate that they are qualified members of the discourse community. This they do by showing that they have mastered the conventions (the textual organization and other rhetorical practices) that are favoured by the members of a specific disciplinary group.

Studies of abstracts in specific disciplines are those of Salager-Meyer (1990) and Anderson and Maclean (1997) on the rhetorical structure of medical English abstracts. Gibson (1993) is also a landmark in the field. Gibson's study not only provides an extremely complete descriptive account of the genre, but shows how certain linguistic variables affect the perceived success of abstracts in information and library science. Kaplan et al. (1994) analysed the textual organization and other linguistic features which characterised a group of abstracts submitted to an international conference on applied linguistics. Santos (1996), also in applied linguistics, examined research paper abstracts in terms of their textual organization. Hyland (2000) carried out a move analysis of abstracts from a wide range of disciplines and described the rhetorical features used by the writers to show the value of their research and to display the fact that they were competent members of the discourse community.

In spite of the importance of abstract writing for non English-speaking background academics, most of the studies of this genre have tended to privilege



publications in main stream US and UK-based journals. Rhetorical conventions acquired for abstract writing in other cultures have not received the attention they deserve. In this study I attempt to redress this imbalance through a comparative study of abstracts written in Spanish and English.

The main focus of this study is a comparative examination of the frequency of occurrence and distribution of epistemic modality in the different structural units that constitute the macro-structure of RA abstracts. The corpus is composed of abstracts written in English for international scientific journals and abstracts written in Spanish and published in Spanish journals. This research has an underlying pedagogical motivation as ultimately the data obtained will inform the design of teaching materials aimed at Spanish-speaking academics, who, almost without exception, find themselves faced with the sometimes daunting task of producing abstracts in English.

2. METHODOLOGY

2.1. THE SELECTION OF THE CORPUS

Since there have already been a number of studies that have established the existence of generic variation across academic disciplines (e.g. Gnutzmann & Oldenburg, 1991; Bhatia, 1998)), the sample here was restricted to two representative disciplines in the experimental social sciences: phonetics and psychology.

A total of 160 RA abstracts written in English and Spanish were used in the present study. The corpus in English is made up of 40 abstracts selected at random from recent publications in two leading international journals in the field of phonetics: *Phonetica* and the *Journal of Phonetics*. Likewise, 40 research article abstracts were selected from two leading international journals in the field of psychology: the *British Journal of Psychology* and *Applied Psycholinguistics*. As similar characteristics were found in the rhetorical organization of both disciplines they were considered as a single group for the purposes of analysis. Therefore, the final corpus in English is constituted by 80 abstracts drawn from four different journals in the experimental social sciences.

As regards the corpus in Spanish, 40 research paper abstracts were similarly selected at random from the only two existing journals in Spanish in the discipline of phonetics: *Folia Fonética* and *Estudios de Fonética Experimental*. Another 40 abstracts were selected from two of the most prestigious Spanish journals in the field of psychology: *Psicológica* and *Análisis y Modificación de la Conducta*. As preliminary analyses suggested that there were no significant differences between the results found in each of the disciplines, all the Spanish abstracts were also considered as a single group representing the area of experimental social sciences. A Spanish corpus of a total of 80 abstracts drawn from four different journals was the result of this process of selection.



2.2. PROCEDURES

The analysis of the data was carried out in two main stages. In the first phase, I undertook the description of the rhetorical structure or macro-structure of the abstracts by examining the overall textual organization of each abstract, following Swales (1981, 1990), Dudley-Evans (1986), Salager-Meyer (1990) and Santos (1996). Then, assuming that the abstracts written in English represent the macrostructure of the accompanying article (Introduction-Methods-Results-Conclusion/Discussion), I proceeded to check, by means of a preliminary analysis, that these structural units were, in fact, present in both the English and Spanish groups of abstracts. Next, using largely semantic criteria, I continued with the delimitation of the textual boundaries of these units. I first carried out the analysis myself and, in order to validate the findings, compared the analysis with that of a representative sample of the Spanish texts carried out by two Spanish independent co-analysts, one of them a member of the English department and the other of the Psychology department at my university. Similarly, a representative sample of the English texts was analysed by a native speaker of English who is a specialist in the area of linguistics and a second native English-speaker with expertise in psychology. In each case complete agreement was reached after discussion. The higher level of discrepancies occurred in the identification of the Results and Conclusion units, particularly when these two units coalesced into a single final element. In the end, we opted for identifying as Results those units in which reference was made to research methodology and where the results were presented without any interpretation. When we were able to identify a close relationship between the unit and the purpose of the study we classified it as Conclusion.

Once the macro-structure of the abstracts was clearly defined, I proceeded to examine the frequency of occurrence and distribution of modality expressions used in each of the structural units previously identified in both groups of abstracts. To this end, the total number and types of modality devices used in the English texts was recorded and then compared to those used in the Spanish texts.

3. THE RHETORICAL STRUCTURE OF ABSTRACTS

3.1. RESULTS OF THE CONTRASTIVE ANALYSIS OF THE MACRO-STRUCTURE OF THE ABSTRACTS

In general terms, it was found that the four basic structural components that typically constitute a research article (I-M-R-C) were all present, to some degree, in both the English and Spanish abstracts, and although some similarities in the frequency of occurrence and distribution of these units in both groups of abstracts were revealed, there were also statistically significant differences.

The results in Table 1 show that the Introduction unit is the most frequent and is an obligatory element in both groups of abstracts. Frequency of occurrence of the Methods unit is similar in the two groups of abstracts analysed. Frequency of occurrence of the Conclusion unit tends to be higher in the English abstracts, although the difference is not significant. The analysis revealed a strong tendency to



TABLE 1. FREQUENCY OF OCCURRENCE AND DISTRIBUTION OF STRUCTURAL UNITS IN THE ABSTRACTS

	ENGLISH	SPANISH
Introduction	79 (98.75%)	80 (100%)
Methods	66 (82.5%)	65 (81.25%)
Results	69 (86.25%)	33 (41.25%)
Conclusion	71 (88.75%)	58 (72.5%)

omit the Results unit in the Spanish abstracts. This unit was present in only 41.25% of the Spanish abstracts in contrast to 86.25% in the abstracts written in English, a finding that represents a highly significant difference of $p \leq 0001$.

It was also observed that the linear sequence (Introduction + Methods + Results + Conclusion) predominated in both groups of abstracts. There were two exceptions in the English part of the corpus, one with the pattern I+M+C+R and the other with M+I+R+C. The sequence varied from the typical pattern in another five of the Spanish texts. The following patterns were used: I+C+R, I+C+R+M, I+C+M+R, I+M+C+R (twice).

As regards the length of the abstracts, there was a great deal of variation in both groups although the average length was the same in both languages. This being the case, length has not been further considered in this study.

3.2. A MOVE ANALYSIS OF THE STRUCTURAL UNITS OF THE ABSTRACTS

A close examination of the four basic structural units that constitute the abstracts indicated that they were quite complex in terms of the rhetorical options available to writers. I therefore initiated a further detailed study of the structural units in terms of moves and steps¹. It was assumed that most of the moves and steps that Swales (1981; 1990) postulates for the analysis of RA Introductions in English would be similarly reflected in the Introduction unit of the abstracts that constitute my sample. In order to establish the frequency and distribution of rhetorical options employed by the English and Spanish writers in both groups of abstracts, Swales' (1990:141) three-move model for the article introduction was applied to the sample².

¹ For a full description of the terms *move* and *step* see, for example, Swales (1981; 1990) and Bhatia (1993).

² A detailed discussion of the results obtained in this analysis is presented in Martín-Martín (in press).



The findings obtained in this analysis revealed that the Introduction unit of the abstracts in English is more complex in terms of the number of rhetorical options: 30.3% of the abstract introductions in international journals contain the three moves as described by Swales (1990) for the introduction of RAs. In contrast, only 12.5% of the Spanish writers opted to use all three moves, exhibiting a clear preference for a unit made up of a single move. This was mainly Move 3 and was used by writers to indicate the main objective or describe the main features of their research. This move was equally present in all the English abstracts, thus, constituting the fundamental and obligatory communicative category in the Introduction unit.

Another communicative category that occurs in 53.16% of the English abstract introductions and in 37.5% of the Spanish texts is initial Move 1, in which the authors establish the relevance of their work for the scientific community. This move is mainly realised through step 2 (*Making topic generalizations*), and through step 1 (*Claiming centrality*). One high significant difference was found between the English and Spanish abstracts. This is related to the frequency of occurrence of Move 2, in which writers try to justify their work in the field, frequently through step 1B (*Indicating a gap*). Whereas in the introduction of the abstracts for international publication the writers use this communicative category in 41.77% of the cases analysed, this move was only present in 15% of the Spanish abstracts.

As regards the Methods unit, a high level of similarity was observed in the rhetorical strategies that writers in English and Spanish use to describe materials, subjects, data sources, procedures or the methodology used in the study. In some cases the Methods unit occurs as a completely independent unit: in 48.4% of the sample analysed in English and in 50.7% in Spanish. However, on other occasions (46.9% in English and 43% in Spanish), and probably due to constraints of space, this element is embedded in the Introduction unit, coalescing with Move 3.

A fine-grained analysis of the Results unit also revealed that many of the communicative categories proposed by Brett (1994) for the Results section of sociology articles were present in the sample analysed³. The obligatory rhetorical element in the Results unit of the abstracts in both languages is a *Statement of Findings*, within the Presentation categories. In the sample analysed there were no instances of the metatextual categories Brett describes; however, in both languages there were a few cases in which Comment categories (Brett's *Explanation of Finding*) occurred after the reporting of the main results.

As for the Conclusion unit, a considerable degree of overlap with the Results unit was found. Many of the moves described in previous studies of the Re-

³ Brett divides the 16 rhetorical categories into three main types: mainly Metatextual categories (with the function of indicating to the reader which data in figures and tables are to be discussed or describing the content and order of the text that follows), Presentation categories (which objectively report the results or the way in which they are obtained), and Comment categories (in which authors give their subjective opinion about the results already presented).



sults and Conclusion units of RAs (e.g. Hopkins & Dudley-Evans, 1988; Brett, 1994) were used by the writers of the abstracts in both languages. Most of the Conclusion units of the abstracts analysed in English and Spanish were constituted by a move in which the main conclusions or implications of the present research are interpreted on the basis of the results obtained. Other moves were also used by the writers in both languages, although less frequently. These included Evaluation of Findings, Implications of Findings, Explanation of Findings and Comparison of Findings with the Literature.

4. THE USE OF EPISTEMIC MODALITY IN ABSTRACTS

4.1. EPISTEMIC MODALITY IN ACADEMIC DISCOURSE

As was stated above, discourse analysis of academic writing has focussed increasingly on social interaction between writers and readers in a specific context. Stubbs (1986) argues that all sentences encode a point of view and that academic texts are no different from non-academic texts in that traces of the author's presence cannot be removed: scientists inevitably indicate their attitude in their writing. An expanding body of research on a variety of disciplines has been able to demonstrate just how academic discourse is both socially-situated and structured to accomplish rhetorical objectives (Hyland, 1994). One such strategy involves the use of epistemic modality to reduce the force of knowledge claims so as to convince members of the research community of the facticity of the results obtained, and to gain community acceptance for a contribution to disciplinary knowledge. The widespread use of modality has been reported, for example, by Gosden (1993).

Palmer (1986) defines the term *epistemic* as applying to any modal system that indicates the degree of commitment and as including speakers' warrants for what they say and their judgements of the reliability of the proposition. Epistemic modality, as defined by Lyons (1977:797), refers to "any utterance in which the speaker explicitly qualifies his commitment to the truth of the proposition expressed by the sentence he utters". Epistemic modality indicates, thus, the speaker's attitudes towards knowledge and the varying degrees of commitment towards the proposition expressed.

There is an obvious relationship between epistemic modality and the pragmatic concept of *hedge*. The use of hedge as a linguistic term goes back to Lakoff's (1972) study, which was largely concerned with the logical properties of words and phrases like *rather*, *largely*, *very*, and their ability "to make things fuzzier or less fuzzy" (Lakoff, 1972: 195). Lakoff used the terms exclusively for expressions that modify the category membership of a predicate or a noun phrase. Since its adoption by those working in the field of pragmatics and discourse analysis its scope has broadened somewhat. Thus, for example, Markannen and Schröder (1989), who discuss the role of hedges in scientific discourse, see them as modifiers of the writer's responsibility for the truth value of the propositions expressed or as modifiers of the weightiness of the information given, or the attitude of the writer to that information.



Along the same lines, Salager-Meyer (1994) sees hedges as linguistic devices used to convey evasiveness, possibility, tentativeness, mitigation of responsibility and/or mitigation of certainty to the truth value of a proposition. Hedging is expressed mainly through the use of modal expressions such as *can*, *may*, *perhaps*, *to suggest*; although other rhetorical devices could also be included e.g., the use of impersonal expressions, the passive and other agentless structures. Many would agree that the concept of modality and hedge overlap to a lesser or greater extent (cf. Markannen & Schröder, 1997). The most common assumption in discourse analysis is to consider hedging as a wider concept that includes epistemic modality as a sub-category.

Epistemic modality allows academics to tone down their statements in order to reduce the risk of opposition and minimise face threatening acts. As Myers (1989: 5) states, “the making of a claim threatens the general scientific audience because it is a demand by individuals for communally granted credit. The claim also threatens the negative face of other researchers because it implies a restriction on what they can do now”. Epistemic modality is therefore crucial in academic discourse as it is a central rhetorical means of gaining communal adherence to knowledge claims (Hyland, 1994).

Research on the use of modality in academic writing has major implications for learners of English. Using modal expressions appropriately may cause problems even in the mother tongue and may prove even more problematic for those whose background is non-English-speaking. Nevertheless, most of the studies that have been carried out on epistemic modality in academic discourse have focused on the analysis of English research texts and only a few (see, for example, Ventola & Mauranen, 1991; Clyne, 1991) have looked at realizations of modality contrastively. A second objective of this study is the examination of epistemic modality in English and Spanish.

For the purposes of the analysis the following taxonomy was devised:

- Modal auxiliary verbs (*may*, *might*, *can/poder*).
- Semi-auxiliaries (*to seem*, *to appear/parecer*).
- Epistemic lexical verbs (*suggest/sugerir*, *to indicate/indicar*, *to speculate/especular*, *to assume/asumir*).
- Verbs of cognition (*to believe*, *to think/creer*, *to doubt/dudar*).
- Modal adverbs (*perhaps/quizás*, *possibly/posiblemente*, *probably/probablemente*).
- Modal nouns (*possibility/posibilidad*, *assumption/suposición*, *suggestion/sugerencia*).
- Modal adjectives (*possible/posible*, *probable*, *likely/probable*).

4.2. RESULTS OF THE CONTRASTIVE ANALYSIS OF EPISTEMIC MODALITY

In Table 2, the quantitative results of my analysis with respect to the frequency of occurrence and category distribution of modality expressions recorded in the different structural units of the English and Spanish abstracts are presented.

The results in Table 2 show that there is a significant difference in the frequency of use of epistemic modality between the two groups of abstracts. The total



TABLE 2. FREQUENCY OF OCCURRENCE AND DISTRIBUTION OF MODALITY DEVICES IN THE STRUCTURAL UNITS OF THE ABSTRACTS

STRUCTURAL UNIT	CATEGORY	ENGLISH	SPANISH
Introduction	– Modal verbs	29 (51.7%)	15 (51.7%)
	– Semi-auxiliaries	3 (5.3%)	2 (6.8%)
	– Epistemic verbs	12 (21.4%)	5 (17.2%)
	– Verbs of cognition	–	1 (3.4%)
	– Modal adverbs	1 (1.7%)	1 (3.4%)
	– Modal nouns	7 (12.5%)	3 (10.3%)
	– Modal adjectives	4 (7.1%)	2 (6.8%)
	Totals	56 items	29 items
Methods	–	–	–
Results	– Modal verbs	5 (20.8%)	2 (16.6%)
	– Semi-auxiliaries	4 (16.6%)	2 (16.6%)
	– Epistemic verbs	10 (41.6%)	5 (41.6%)
	– Verbs of cognition	–	–
	– Modal adverbs	–	–
	– Modal nouns	4 (16.6%)	2 (16.6%)
	– Modal adjectives	1 (4.1%)	1 (8.3%)
	Totals	24 items	12 items
Conclusion	– Modal verbs	32 (38.5%)	12 (38.7%)
	– Semi-auxiliaries	5 (6%)	4 (12.9%)
	– Epistemic verbs	39 (46.9%)	10 (32.2%)
	– Verbs of cognition	–	1 (3.2%)
	– Modal adverbs	4 (4.8%)	1 (3.2%)
	– Modal nouns	1 (1.2%)	1 (3.2%)
	– Modal adjectives	2 (2.4%)	2 (6.4%)
	Totals	83 items	31 items
TOTALS		163 items	72 items

number of modal markers used in the English texts was 163 as opposed to 72 in the Spanish abstracts. Whereas this rhetorical strategy was favoured by the majority of academics who wrote in English for international publications (there were exam-

ples of epistemic modality in 72 out of the 80 English abstracts that constitutes our sample), it was only found in 41 out of the 80 abstracts analysed in Spanish.

The results in Table 2 also show that in both languages the frequency of occurrence and distribution of modality devices varies similarly across the different structural units of the abstracts: the most heavily-hedged unit both in English and Spanish is the Conclusion unit. This is unsurprising as it is here that writers make the highest level of claim and tentatively explore implications not directly tied to their findings. The modal markers most frequently used in this unit in both languages are epistemic verbs (*to suggest, to indicate, to tend, to propose; sugerir, indicar, señalar*) and modal verbs (*may, can, might; poder*).

It is in the Conclusion unit, especially in the English abstracts, that most instances of clustering of modality devices were found, as in the following examples:

- 1) It is *tentatively suggested* that the congenitally blind *may* show different learning strategies from the sighted as a result of allocating more attention to sensory information processing.
- 2) The discussion considers *possible* explanations for the findings and the *possibility* that different subgroups of these samples *might* show differential effects.
- 3) Esto es suficiente para *sugerir* que las ecuaciones polinómicas *pueden* ser capaces de ilustrar invariación acústica.
- 4) *Sugerimos* por tanto, que si bien los factores en solitario no *parecen* ejercer ningún efecto, en futuras investigaciones se delimite la relevancia del status del investigador.

The second most-heavily hedged unit, again in both languages, is the Introduction, where the level of claim is also fairly high. In this unit, the modality devices most frequently used in both languages are modal verbs (*can, would, may, might; poder*) followed by epistemic verbs (*to suggest, to indicate, to tend; pretender, proponer*) and modal nouns (*assumption, possibility, indication; posibilidad*). As noted in section 3.2., typical of most of the English and Spanish abstract introductions is the presence of Move 3, in Swales' (1990) terms, where writers indicate the main purpose of their studies or describe the main features of their research. For the realisation of this move, the writers in both languages occasionally made use of modality expressions in order to reduce their commitment to the claims expressed:

- 5) The present paper reports on an *attempt* to use computed tomography for investigating the pharynx.
- 6) This study explores the *possibility* that beginning writers do not revise because they do not read their own writing.
- 7) Este trabajo *pretende* estudiar los distintos parámetros acústicos que permiten la diferenciación de las tres series de oclusivas distintivas.
- 8) Para profundizar en este objeto de conocimiento, este trabajo se plantea la *posibilidad* de potenciar el efecto específico del tratamiento psicológico del dolor.



Another frequent subunit or move in the abstract introductions in both languages, as was noted earlier, is Move 1, in which writers establish the relevance of their work. For the realisation of this move, the writers also used modality devices on some occasions:

- 9) There is wide agreement that current psycholinguistic techniques *may* help us understand (...). This application *would seem* particularly worthwhile in the domain of schizophrenic speech.
- 10) Often it *has been suggested* that infants begin life with the ability to perceive any speech contrast.
- 11) Mediante el análisis acústico es *posible* constatar el tipo de trastorno y su evolución.
- 12) En términos generales, se *puede* decir que para algunas personas resulta fácil llevar a cabo una intención frente a otras fuerzas competidoras.

Move 2, as noted above, is less frequent in the Spanish abstract introductions than in the introductions in English. It is in this move that writers try to justify their work in their research field by indicating a gap, that is, pointing out possible topics or areas that still need research, or by showing disagreement with the results of previous studies⁴. In Move 2, epistemic modality constitutes an important rhetorical device, especially in the international publications in English. Writers use modality to reduce the degree of disagreement with the ideas sustained by other authors, so as to protect themselves against criticism while creating a research space:

- 13) Phonological awareness is thought to be related to children's success in learning to read. However, morphological awareness *may* offer a more comprehensive measure of linguistic sensitivity.

An interesting aspect that was found in the sample is that, as a way of justifying their contribution to their research field, some writers in both languages use modality markers to diminish the validity of the results obtained by other authors in previous studies:

- 14) An earlier experiment by Byrne (1981) found that young, poor readers *tend* to act out sentences containing adjectives with object control (...). However, the *possibility* that a processing limitation *could* have contributed to the poor readers' difficulties with object-control adjectives has not been fully explored.

⁴ A contrastive (English-Spanish) multidisciplinary study of academic conflict in abstracts and research articles is currently being conducted by a research team at the University of La Laguna. See Burgess and Fagan (this volume).

- 15) A pesar de la importancia que estas variables *parecen* tener para obtener efectos de facilitación bajo el paradigma de facilitación semántica, no existe actualmente un listado de estímulos con esta información.

As for the Results unit, as shown in Table 2, the frequency of occurrence of epistemic modality is not as high as in the previous structural units. On the occasions that writers use modality to present the results obtained, the modality markers most frequently used both in English and Spanish are epistemic verbs, modal verbs and semi-auxiliaries. A relatively high percentage of modal nouns was also found in both languages:

- 16) There was a *tendency* for those subjects who had shown good correspondence between their ranks and their ratings to show a greater spread in their rating.
17) Los resultados *indicaron* una *tendencia* a la compensación de los rasgos fonéticos.

Finally, with regard to the Methods unit of the English and Spanish abstracts, no examples of modality devices were found in any of the texts. It is also worth pointing out that the only category in which no instances were provided in the English abstracts that constitute our sample was that of verbs of cognition, such as *believe*, *think*, which indicates that although the use of these verbs may be included in research articles as a rhetorical strategy to mitigate face-threatening acts, it seems not to be favoured by writers in abstracts for international publications. Although this tendency appears to be the same for the abstracts in Spanish, two instances of verbs of cognition were found in the Spanish texts:

- 18) [...] con lo cual *podemos pensar* que los índices invariantes hay que buscarlos en el seno de la sílaba.
19) [...] es decir, *creemos* que no poseen dos modos diferenciados y que constituyen una sola clase.

5. CONCLUSION

The findings obtained in this study can be regarded as revealing that abstract writing in the field of experimental social sciences presents some degree of cross-cultural variation. It has been shown that RA abstracts in English and Spanish conform to a similar pattern of organization which has been conventionalised by the members of the academic community in both languages. This indicates that the requirements of the genre and the discipline, as imposed by the members of the Spanish and the English-speaking discourse communities, exert an important role in the configuration of the macro-structure of abstracts. This is seen in the fact that, for the most part, both groups of abstracts summarise the four basic structural units which constitute the different sections of the underlying research article. However, a significant difference between the Spanish and English texts is the strong tendency to omit the Results section in the Spanish abstracts. This difference suggests



that the need to highlight the main findings of the research is not as great a concern among the members of the Spanish community as it is for the English-speaking writers, for whom there is more competition to get their work into print and then to get it cited.

The analysis of the different units of the abstracts into moves also revealed some degree of divergence, mainly in the abstract Introductions. There is a general tendency among the writers in both languages to indicate the purpose or describe the main features of their studies through the use of Move 3. However, the writers in English exhibited a greater tendency to establish the relevance of their research and to show that they are competent members of the discourse community through Move 1, and more significantly, through Move 2. The high incidence of deletion of Move 2 in the Spanish abstracts may be explained by the type of audience that the Spanish writers are addressing. It appears that the Spanish writers consider it unconventional to criticise the work of others even obliquely in an abstract. Given the small numbers belonging to the community, Spanish researchers do not feel the same need to establish a niche as the members of the English-language background group. The intense competition to publish and have one's work noticed and cited make Move 2 an obligatory element for these writers.

Sharing the beliefs of other researchers in ESP (e.g. Swales 1981, 1990; Hopkins & Dudley-Evans 1988, Weissberg & Buker 1990, Bhatia 1993), I consider that this type of analysis of moves is a very helpful tool in helping non-native speakers cope with the writing tasks required of them in an academic or professional context⁵. However, there is a need to adopt a flexible approach to the teaching of moves and to avoid over-prescription, even if there is now some evidence that learners can quickly grasp the moves suggested for a genre and apply them successfully in their writing (Dudley-Evans, 1997).

One way in which this process can be facilitated is through a finer tuned analysis of the sub-categories involved in the moves. Epistemic modality is one of these strategies. As the results of this study demonstrate, the overall category distribution of modality expressions used across the different structural units of the abstracts is quite similar in both languages. However, in terms of the frequency of occurrence, there is a significant difference that points to cross-cultural variation in the rhetorical preferences of writers. Most academics who write abstracts in English for international publications use modality devices as an important rhetorical tool in their attempt to gain reader acceptance of knowledge claims and to avoid potential criticism, probably in response to the fierce competition that exists among the

⁵ Hyon (1996) provides an excellent discussion of the different views of the usefulness of explicit genre instruction for language learning, across the three research areas where genre scholarship has been most fully developed and where its theory and teaching applications have taken significantly different paths: English for Specific Purposes, North American New Rhetoric studies and Australian Systemic Functional Linguistics.

members of the international discourse community to see research published. On the other hand, in almost half of the Spanish abstracts the writers do not make use of modality devices. There are a number of possible explanations for this. It may be that they are not familiar with the function of this rhetorical strategy. An alternative explanation is that Spanish writers consider modality to be a rhetorical practice typical of the international community norms, but one which they do not yet regard as appropriate in Spanish academic registers. A third possibility is that they simply consider the strategy unnecessary. In the relatively small community in which they work, the risk of retaliation from a peer is considerably reduced.

The fact of the matter is that increasingly Spanish researchers find themselves compelled to publish in English. This means that they need to gain familiarity with the discourse conventions of the international community, including the convention of modulating claims. Spanish writers who wish to obtain international recognition through their publications need to be aware of the functions of epistemic modality in the production of research texts. Teaching the appropriate use of modal expressions in English academic discourse should be an essential component of academic writing programmes in Spanish universities.



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