



# The rhetorical organization of the Textbook genre across disciplines: A 'colony-in-loops'?

Discourse Studies  
12(2) 195–222

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DOI: 10.1177/1461445609356500

<http://dis.sagepub.com>



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## Abstract

This article identifies and describes the rhetorical organization of the *Textbook* genre, based on a corpus-based approach and on part of PUCV-2006 Corpus of Academic Spanish. This subcorpus includes 126 textbooks collected from four scientific disciplines at undergraduate university programmes: Social Work, Psychology, Construction Engineering and Industrial Chemistry. In order to fulfil the goals, the article determines and describes the communicative purposes of each of the moves and steps identified, and gives examples from the four disciplinary domains. A new macro-level to fully account for the analysis is introduced and justified, which turned out to be essential for a better description of an extensive textual unit as these texts are (200,000 words). This is named as *macro-move*. The main findings reveal a well-organized organization directed towards educational instruction. The genre fundamental nucleus is formed by the macro-move *Conceptualization and Exercising*, which is repeated as many times as the contents are displayed. By the end of the article, the question appearing in the title is answered and arguments are offered to explain why the genre's rhetorical organization is described as a 'colony-in-loops'.

## Keywords

colony-in-loops, corpus linguistics, discourse genre, macro-move, move analysis, textbooks

## Introduction

Large numbers of textbooks circulate in paper and electronic formats in undergraduate university settings. Textbooks are also employed as fundamental means of constructing specialized knowledge in a variety of disciplines. However, not much research is found regarding Textbook genre organization from theoretical or applied perspectives. According to the empirical data collected in the PUCV-2003 Corpus of Technical-Professional Spanish

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and the PUCV-2006 Corpus of Academic and Professional Spanish, the Textbook is one of the genres evidencing a major impact on certain areas of technical-professional education, as well as on undergraduate university programmes (Parodi, 2004, 2005, 2009a, 2009b, 2009c; Parodi and Gramajo, 2003). Texts belonging to this genre constitute an important part of the total amount of both corpora (33% and 26%, respectively). These facts not only indicate the importance of the Textbook as a means of accessing specialized knowledge in Chilean academic tertiary institutions, but also the way in which the Textbook's predominant communicative purpose is exercised through texts.

In addition, the study of the rhetorical organization of discourse genres has been restricted to only a few genres and has particularly concentrated on Research Articles. Starting from the seminal work of Swales (1981), this genre has been profoundly explored in several languages, with a special emphasis on English. It is highly probable that the concentration on this genre, due to its fundamental function as a means of scientific communication, may have eclipsed investigation of the rhetorical organization of other genres, although such research is not entirely absent (e.g. Barbara and Scott, 1999; Bazerman, 1988; Bhatia, 1993, 1997, 2004; Biber et al., 2007; Bunton, 2002; Dudley-Evans, 1986; Love, 1991, 1993; Moss and Chamorro, 2008).

Comparatively, research on Spanish is scarcer. Many research works can also be identified concerning Research Articles (Acosta, 2006; Ciapuscio, 1996; Ciapuscio and Otañi, 2002), but few in-depth studies have been conducted on other genres. Some unique research works are, for instance, those of Espejo (2006), Núñez (2004) and Núñez et al. (2006), who approach the study of the Report; those of Cubo de Severino (2000, 2002), who studied textbooks; and those of Bolívar (1999, 2000), who analysed research abstracts for scientific meetings. This scenario reveals an interesting niche for the study of the Spanish language.

In an attempt to fill this gap, this article describes the rhetorical organization of the Textbook, based on part of the PUCV-2006 Corpus of Academic Spanish. This corpus includes 126 textbooks collected from four disciplines: Social Work, Psychology, Construction Engineering and Industrial Chemistry. More specifically, we identify and describe the communicative purposes of each of the moves and steps, and provide examples from some textbooks from the four disciplines. A new macro-level of analysis is introduced and justified where this becomes necessary for deeper description of an extensive text unit, as is normal when this genre is involved. We have named it *macro-move*. By the end of this article, we answer the question that gives title to this article, explaining why the Textbook would have a rhetorical organization, which we call a *colony-in-loops*.

## 1. Textbooks as a discourse genre

The term *Textbook* turns out to be polysemic because it applies at the same time to undergraduate university academic textbooks, technical procedure manuals such as instruction booklets, as well as primary and secondary school textbooks. In addition, sub-classifications into diverse sub-types are possible for some of these genres. Thus, the idea of a genre system (Bazerman, 1994; Martin and Rose, 2008; Tardy, 2003), as well as a colony of genres (Bhatia, 2004) or a macro-genre (Martin, 1992), may be applied

here. Nevertheless, this article does not inquire into the diverse meanings or possible sub-classifications of the Textbook discourse genre. We begin from the theoretical concept of genre as a multi-dimensional construct with a sociocognitive emphasis (Parodi, 2009d) and from empirical corpus-based findings (Parodi, 2008, 2009b, 2009c, 2009e). These data have led us to understand genres as dynamic entities, which are constructed – in part – by the communicative purpose to be fulfilled, the university scientific domain, the participants involved, the kind of mono- or multi-modality applied, and the predominant discourse organization mode (Parodi et al., 2009).

Finding a concise definition of genre is undoubtedly a complex issue. In fact, there exists a wide variety of definitions available. This particular construct has been approached from various spheres, sometimes more theoretical, others more instructional, more rhetorical, or more grammatical. However, in my opinion, excessive emphasis tends to be placed upon one component more than another, or focus is placed on one dimension to the detriment of others, resulting, in some cases, in a somewhat unbalanced definition. In my opinion, a genre constitutes a constellation of potential discourse conventions, sustained by the previous knowledge of the speakers/writers and listeners/readers (stored in the memory of each subject), based on contextual, social and cognitive constraints and parameters (Parodi, 2009d). This knowledge, sociocognitively constructed (Van Dijk, 2008, 2009), is operatively expressed through highly dynamic mental representations. Thus, genre, as potential resources, is an instantiation of groups of conventionalized selections, which present certain synchronically identifiable regularities, but which may also be observed in terms of diachronic variations, since they are not static entities but are in fact highly dynamic. In concrete manifestations genres are varieties of a language that operates using groups of linguistic-textual features which co-occur systematically through the passages of a text, and which are circumscribed linguistically by virtue of aims, participants (writers and comprehenders), contexts of use, etc. These groups of linguistic-textual features may be identified via corpora which are representative of instantiations of concrete texts, and from which prototypical regularities may be projected in the characterization of certain genres.

As already mentioned, there is not much research on the rhetorical organization of textbook genres. Although there is some research in English (Love, 1991, 1993; Myers, 1989, 1992; Salager-Meyer, 1990; Tadros, 1989), little attention has been paid to university textbooks in Spanish (Cubo de Severino, 2000, 2002), and those that exist focus on primary and secondary school textbooks (González, 2007; King, 2007). This genre is somewhat different from that of undergraduate university textbooks. One seminal study in Spanish was conducted in Argentina by Liliana Cubo de Severino (2002, 2005). Her findings established a preliminary starting point for the description of some rhetorical moves, as well as an approximation of possible reading comprehension difficulties involved in its processing. Unfortunately, in our opinion, Cubo de Severino's findings come from a reduced sample of textbooks where diverse disciplines and sub-disciplines (linguistic, sociolinguistic, psycholinguistic, economic and human geography) intersect randomly, with a certain tendency toward homogenization. Partly due to this, her results cannot be largely projected or generalized.

### *1.1. Textbook rhetorical organization: The rhetorical move approach*

As is well known, the study of genres in terms of rhetorical moves was developed originally by Swales (1981, 1990, 2004) to functionally describe a part or section of Research Articles. This approach, which seeks to operationalize a text into particular segments and identify the communicative purposes of each of these, originated from the educational objective of supporting the teaching of academic writing and reading for non-native speakers of English. The idea of describing and explaining the rhetorical structure of a particular genre and of identifying each associated purpose is a contribution that can assist beginners and novices who do not belong to a particular discourse community.

The move analysis of a genre aims to determine the communicative purposes of a text by categorizing diverse text units according to the particular communicative purpose of each unit. Each one of the moves where a text is segmented constitutes a section, revealing a specific communicative function, but this is linked to and contributes to the general communicative objective of the whole genre. The unique organization of the moves of a specific genre is what provides its identity and distinguishes it from other genres. It is this underlying organization, inlaid in the textual surface, which the researcher must make visible by identifying the various rhetorical steps and moves.

The number of moves and steps of a genre or genre section is not governed by fixed rules because there is not necessarily a relationship between the rhetorical organization of a genre and its formal structure. This issue relates to the level of abstraction pursued in the determination of each communicative purpose. In other words, if a researcher seeks an extremely detailed analysis, it is feasible that he/she may atomize each text proposition in a step or move. However, if an analysis is established using a larger degree of abstraction, the number of functions and macro-functions may diminish significantly. This may result in variable descriptions of a genre's organization, with varying degrees of specificity. On the other hand, the non-existence of exact rules for the application of this approach implies that each researcher does not necessarily proceed by means of a previous set of clearly determined phases. Consequently, moves in a genre could be quite variable in terms of their internal organization, length and connections with other moves. There is an additional characteristic of moves and steps that should be noted, since this contributes to the difficulties involved in this kind of analysis: some moves and steps in a genre may be obligatory, while others may be optional.

Bhatia (1993, 2004), Kwan (2006) and Swales (1981, 1990, 2004), as well as Biber et al. (2007), propose useful and general orientations as to how to perform a functional identification of moves from a genre analysis perspective. In all of these analyses, keys and procedures are offered in greater or less detail in order to carry out a study of the communicative purposes of a text and its segmentation into minor text units. It is important to point out that none of these authors is very clear when it comes to offering a very detailed process, since it is not easy to state the linguistic limits of a discourse unit or its communicative purpose a priori. Therefore, it is evident that this is a question that each researcher must face based on his/her experience with the genre under scrutiny and from what is called a 'bottom-up' or a 'corpus-driven' approach (Biber et al., 2007;

Thompson and Hunston, 2006; Tognini-Bonelli, 2001). Likewise, a fundamental step in this methodological approach is the triangulation of the data by means of human judgements to evaluate the discourse components identified and the corresponding classification of those text segments as discourse moves in a genre. This process must occur during the development process for the first descriptions as well as in the final validation of the move and step codification table and the corresponding communicative purposes. This is also known as inter-rater reliability by expert judges and turns out to be a support for the contrast and validation of the researcher's judgement (Hatch and Lazaraton, 1991).

It is important to emphasize here that the notion of rhetorical organization underlying this study comes from a rather different tradition than, for example, that of the Rhetorical Structure Theory (RST) (Grimes, 1975; Mann and Thompson, 1986, 1988), in which a descriptive framework is proposed to describe the relations among clauses in a text such as cohesion and coherence relations. One of its objectives is to identify hierarchic structures in texts, describing the relations between parts. The functional approach we follow is also different from other theories that employ notions such as schemata (Rumelhart, 1975) or macrostructures and superstructures (Van Dijk, 1977). Thus, describing the rhetorical organization of a genre implies an analysis that determines the specific communicative purposes of all texts of the corpus by segmenting all discourse units that reveal a particular communicative purpose. Each one of the moves that represent these communicative purposes are intertwined with the more global and general communicative purpose of the genre as a whole. This is why the notion of macro-move stands as an important analytical tool in the description of a genre's rhetorical organization.

## **2. The research**

As was mentioned, this research aims to provide a functional description of the rhetorical moves and steps constituting the Textbook genre. At the same time, it focuses on the analysis and comparison of a corpus belonging to four university undergraduate programmes (Psychology, Social Work, Industrial Chemistry and Construction Engineering), divided into two scientific domains (Social Sciences and Humanities (SS&H) and Basic Sciences and Engineering (BS&E)). We are also interested in offering examples that illustrate the focus of analysis from all the scientific disciplines involved. This is due to our interest in discovering the mechanisms that allow access to specialized disciplinary knowledge and allow novices to become full members of a discourse community.

### ***2.1. Corpus description***

The Textbook is the second most predominant genre in the PUCV-2006 Academic Corpus of Spanish (126 texts: 26% of the total amount). It is only preceded by the Disciplinary Text (270 texts: 55% of the total number of texts). A relevant finding is the fact that the Textbook is the only one of the nine genres identified in the PUCV-2006 Academic Corpus that is found across the four disciplines under study.

**Table 1.** Numerical constitution of the corpus

University programme	Number of texts	Number of words
Psychology (PSY)	31	4,925,931
Social Work (SW)	15	2,465,747
<i>Subtotal</i>	46	7,391,678
Industrial Chemistry (IC)	31	9,161,146
Construction Engineering (CE)	49	6,936,212
<i>Subtotal</i>	80	16,097,358
<b>Total</b>	<b>126</b>	<b>23,489,036</b>

Numerical distribution of textbooks per university programme is detailed in Table 1. It is worth emphasizing that this constitution of the corpus was not intentional in any instance. The collection process followed strict procedures and the objective was always to access the universe of texts being delivered as obligatory and optional reading material to the students of the four university programmes during the total number of years included in each curriculum. Therefore, the nature of the corpus is ecological and representative. All of this material is available electronically at El Grial website, where the texts have been processed morphosyntactically in plain format ([www.elgrial.cl](http://www.elgrial.cl)). Further details regarding development and possible consultation using El Grial interface can be found in Parodi (2006).

It is remarkable to note the heterogeneous distribution of the Textbook within the corpus. In terms of the number of texts, Industrial Chemistry and Construction Engineering comprise almost double the presence in Psychology and Social Work; therefore, the number of texts varies importantly among disciplines. Thus, in terms of the number of words, this sub-corpus of textbooks in the PUCV-2006 Corpus represents 41.5 percent of the total amount. These figures show that we are facing texts of substantial length, since the average number per text is more than 200,000 words. This is another fact to consider in the analysis of the rhetorical organization of this genre, since this will lead to the identification of more specific communicative purposes of the text units.

Complementing these figures it is also interesting to give more information about the institutional context and corpus construction where these texts were collected. The academic corpus was constructed by collecting close to 100 percent of the written material read during each year of the curriculum for each of the four degree programmes under study. In order to compile the academic corpus and to set up a database, a series of nine steps were followed, as outlined in Table 2.

Following these steps ensured we collected representative corpora of texts circulating as obligatory and complementary material given to students during their studies at the four undergraduate university programmes. Thus, the corpus of 126 textbooks represents an important part of the material students might read to have access to disciplinary knowledge.

The choice of these four disciplines is based on: a) the exploration of areas different from those classically investigated in English and in Spanish, such as law, medicine, economics, history and business; b) our aim of contrasting, from different points of view, the genres and prototypic features of the texts used in university education; and c) a further interest in the contrast, on several different points, between the disciplines of Basic Sciences and Engineering (BS&E) and those of Social Sciences and Humanities (SS&H).

**Table 2.** Steps in the collection and processing of the academic corpus

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Step 1: Construction of a database with all the information from the curricula of the four university degree programmes (including that of each course)
Step 2: Construction of a database from all obligatory and complementary bibliographic references included in the study programmes
Step 3: Preparation of a survey of all professors from each of the four programmes, including a request for complementary materials not included in the course programmes
Step 4: Collection of complementary material for each course, which the professors pass to students in the form of guides, digital files, and photocopied material
Step 5: Internet search with the aim of finding the selected books which were available in digital format, thus minimizing digitalization efforts
Step 6: Collection of the texts from the corresponding libraries and from the professors' offices
Step 7: Process of photocopying each text with the aim of building a paper database
Step 8: Training of a team of assistants to scan and compile all texts
Step 9: Processing of all the texts into plain text format (*.txt) using the tagger and parser 'El Grial' [ <a href="http://www.elgrial.cl">www.elgrial.cl</a> ]

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## 2.2. Method

*2.2.1. Preliminary precisions.* The method used in this study is between the so-called descending (deductive) and ascending (inductive) approaches. This is a complementary methodology and not an exclusive one. This complementary methodological decision, following Baker (2006) and Biber et al. (2007), does not correspond to either of the two alternatives proposed by these authors, that is, the 'top-down' and 'bottom-up' approaches. In the former, research originates from predetermined categories that were previously familiar to the researcher; in the latter, categories emerge exclusively from the data.

While these previous distinctions are highly relevant, it is important to state that we do not agree with the separation that Biber et al. (2007) establish between what they call 'discourse analysis' and the 'corpus-based approach'. This is because the distinction opposes the two approaches in an excessively reductive and radical way by circumscribing, on one hand, the so-called 'discourse analysis' to 'top-down' methodologies – and, on the other, the 'corpus-based approach' to 'bottom-up' methodologies. Basically, our objections focus on the strict division Biber et al. (2007) make between the 'top-down' and the 'bottom-up' approaches and the assimilation of a 'corpus based-approach' to stronger and more scientifically validated studies (as compared to those based on the so-called 'discourse analysis' approach). Likewise, we do not agree with Baker (2006) regarding the four supposed advantages of a 'corpus-based' approach as opposed to a 'top-down' analysis. It does not seem possible to transfer a study from the discourse analysis arena to one of an exclusively inductive investigation, with small, random and exemplary corpora, impressionistic and biased analysis, and scarce data triangulation. On the contrary, we consider it unfair to argue that only studies from a 'corpus-based' approach perspective and with 'bottom-up' methodologies impose larger restrictions to our cognitive prejudices, display greater focus on the data than its interpretation, are based on digital texts and large corpora, and thus reduce manipulation of the chosen texts.

We defend an analysis based on robust corpora of complete, non-mutilated texts (not just some paragraphs or pages, or exemplary sections of a unit) that have been ecologically collected with the highest possible degree of representativeness. We are thus in favour of precise methods that will allow for the replication of procedures and proposed categories. In this integrated and complementary approach, the researcher is not deprived of his/her previous knowledge at the moment of the analysis. The text under analysis will also guide the segmentation process and will complementarily cause the underlying communicative purposes to emerge from the linguistic structure. These communicative purposes are, in fact, in the researcher's mind and are part of his/her previous knowledge. Based on this knowledge, he/she is able to identify them in the text. On the other hand, the overall configuration of these purposes is a question that does not previously exist in the researcher's mind; thus, it is this organization system coming from the text that the analyst must codify and explain. The balance produced between the text's data and the information that is part of the researcher's previous knowledge constitutes the outcome.

**2.2.2. Methodological steps of the analysis.** The 126 textbooks under study were available in paper and electronic formats. These were analysed using both versions, depending in part on the step of the analysis being executed. Initially, the sections of each text representing particular moves were identified and marked on paper; subsequently, they were identified and separated in the digital files, thus creating independent electronic documents per move.

As previously mentioned, the researcher's experience and awareness of underlying communicative functions play a vital role in the segmentation process for texts and the identification of functional categories. In some cases, these functional segments may correspond to clearly identifiable structural text units – as is the case, for example, with the *Table of Contents* in the Textbook. In other cases, they may correspond to parts of the text that are less linguistically determined and for which the communicative purpose is more difficult to identify; for instance, *The Expression of Gratitude* as part of the structural unit *Preface*. Thus, the functions that a semantic/structural unit may perform, in principle, rest on the analyst's expert judgement.

Another relevant step in the analytical process is awareness of decisions regarding the degree of abstraction that was applied in the segmentation process of the functional units. As stated earlier, the length of the texts that form the Textbook genre is considerable (an average of 200,000 words). This imposes a level of abstraction higher than that of research in short genres such as the Research Article or with text sections of this genre, which are traditionally brief (an average of 1000 to 4000 words). It has been hard to find a previous study with a complete record of large texts such as textbooks in the available literature. Therefore, awareness of a higher degree of abstraction applied to each text under study becomes a complex issue that researchers must face carefully.

Table 3 shows a summary of the methodological steps applied in order to describe the rhetorical moves of the PUCV-2006 Academic Corpus of Textbooks. In this table, special effort was made to include as many details as possible in order to provide a complete overview of the procedures executed.

**Table 3.** Stages and steps to conduct a move analysis in PUCV-2006 Corpus

Stages and steps to conduct a move analysis	Description
<i>Stage 1. Analytical framework configuration</i>	A preliminary analysis is performed from a micro-corpus for the construction of a first criteria table.
Step 1.1. Identifying text units	Based on an initial analytical study of the micro-corpus, a set of text units is identified.
Step 1.2. Determining the observation focus	The degree of abstraction is established in order to observe the communicative purposes forming the genre.
Step 1.3. First equalization	The relation between the focus of observation and the identified text units is revised and adjusted.
Step 1.4. Assigning communicative purposes	Each identified discourse unit is associated with a communicative purpose.
Step 1.5. Label production	A label is assigned to each identified discourse unit, according to the communicative purpose it eventually fulfils.
Step 1.6. Identifying the general communicative purpose	The genre's general communicative purpose is determined according to the set of previously identified communicative purposes.
Step 1.7. Designing the first criteria table	Based on previously developed steps, a first classification in terms of macro-moves, moves and steps is designed.
<i>Stage 2. Extension and adjustments</i>	The criteria table is applied to the whole corpus and eventual modifications are made.
Step 2.1. Applying the criteria table	The criteria table is applied to the total amount of texts in the corpus.
Step 2.2. Second equalization	Based on the application to the total corpus, the necessary modifications are made to the criteria table, which implies including or excluding some macro-moves, moves and/or steps.
<i>Stage 3. Reliability of criteria table</i>	A triangulation process is carried out in order to establish the instrument's reliability.
Step 3.1. Determining the instrument's reliability	In order to determine the percentage of agreements among raters, three expert reviewers applied the criteria table following the same procedure.
Step 3.2. Third equalization	After the triangulation process and over 80% agreement, several adjustments are made to the criteria table in order to settle emerging discrepancies noted after the reviewers had made their analysis.
<i>Stage 4. Establishing the occurrence of functional categories</i>	The final criteria table is applied to the corpus in order to quantify the occurrence of moves and steps.
Step 4.1. Quantification	The occurrence of each move and step in each text in the corpus is quantified.

These steps have guided our analysis and oriented our research. They may help to guide those who are interested in pursuing studies of this kind. We are aware that some of these may entail a certain degree of subjectivity and that the researcher must make decisions while each stage and step are being developed. Not only the research team, but also the raters of the triangulation process are fundamental to improving the different stages of analysis and the identification of categories and definitions.

**2.2.3. Inter-rater reliability.** With respect to reliability of the criteria table, three expert reviewers performed a preliminary analysis (Hatch and Lazaraton, 1991). The objective pursued was to obtain a high percentage of agreement in order to ensure consistency of the proposal developed by the researchers. This triangulation process reinforces the empirical data and grants more objectivity to the results.

In this research, a high degree of agreement (over 87%) was reached among the reviewers who examined the codification guideline and the corresponding rubrics. This means that we made sure that each of the three raters equally understood the definitions of each macro-move, move and step, and the purposes identified for each. The most basic and well-known system was used for the statistical calculation of these reliability procedures: a table for agreement on percentages.

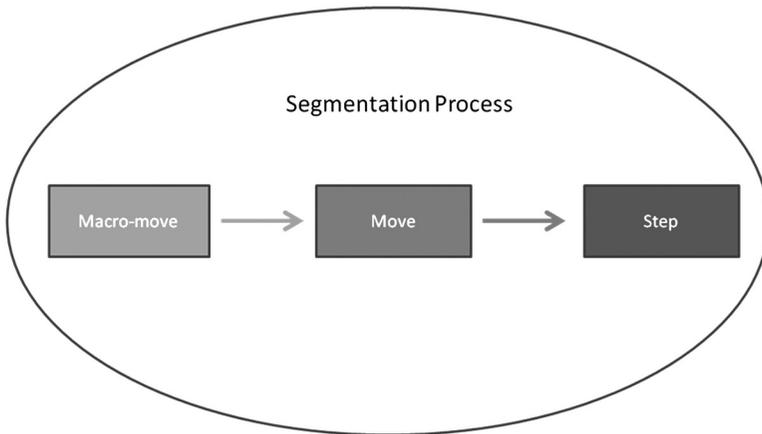
### 3. Results and discussion

In the first part of this section, we focus on the results of the identification of the Textbook's rhetorical organization and then detail macro-moves, moves and steps identified. A definition of the communicative purpose is given for each of these. In order to incorporate information based on the four disciplines involved in this study, some of the steps are illustrated, taking examples from the actual texts of the corpus by selecting passages from the corpus, but choosing from different source disciplines. In addition, we decided to move into a complementary analysis and, therefore, identification of the approximate structural section where moves and steps occur is included.

#### 3.1. Description of the overall Textbook rhetorical organization

One important issue regarding the results obtained in this research was related to the rhetorical organizational patterns. We will describe the *hasta, pero que* presented in Figure 1 of this article. Figure 1 showed that the structure of a progressive communicative purpose embedding was operationalized from the general purpose of the genre through moves and steps or from specific to general distribution. An innovative element of this initial model is the creation of the concept and coining of the term *macro-move*. This macro-level helps to reveal: a) the length of texts making up this genre, b) the higher level of abstraction that is implicit in this analysis, and c) the recursive functional organization of certain obligatory sections.

As is well known, a move has been defined as a discourse unit performing a specific function in a text. Thus, each move has a particular communicative purpose and contributes to the overall communicative purpose of the genre. By using the term *macro-move*, we seek to define a discourse unit of higher rank than that of a move. This implicitly

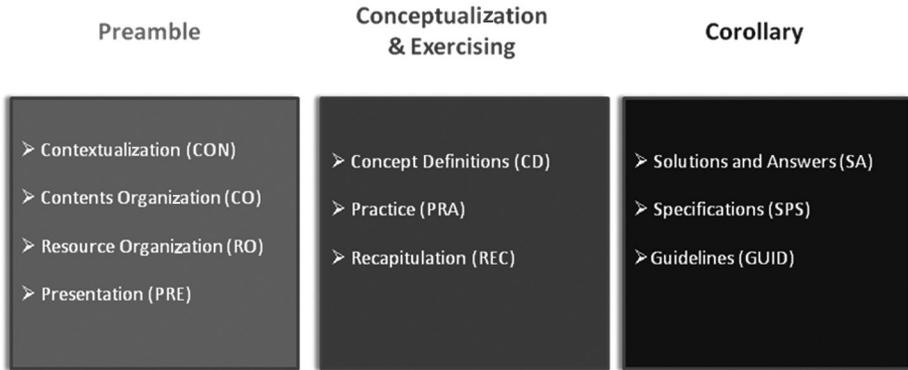


**Figure 1.** Segmentation process of the Textbook functional components

includes a more abstract view in terms of the communicative purpose that serves the macro-move. These macro-purposes are inclusive in nature with respect to more limiting purposes. This means that the analysis of the Textbook's functional organization reveals a multilevel complex distribution that requires specification of a macro-purpose, including a set of more specific moves and, in turn, more detailed steps. This major form of organization also enables the differentiation of nuclear components and satellite components in the genre under study. The detection and inclusion of this more abstract level and higher rank produces a more visible overall form of rhetorical organization, not only for the analysis but also for possible educational applications. Figure 1 shows the segmentation process, presented according to rank as described above.

Starting from this procedure, the analysis of the data has led to the identification of three fundamental rhetorical macro-moves in the Textbook genre: *Preamble*, *Conceptualization & Exercising* and *Corollary*. Each of these operationalizes in moves and, more specifically, in steps. Some of these moves and/or steps constitute nuclear categories, while others clearly serve a satellite communicative function. This means that some obligatory categories are distinguished that are highly constitutive of this genre, while others are clearly optional. This reveals that the Textbook genre is constituted by a group of macro-moves, moves and steps that define its character, but that empirical research has demonstrated the existence of certain categories of minor rank (moves and steps) that are not always present in the corpus of the texts under study. Figure 2 identifies the three macro-moves, together with their respective constitutive moves.

Organization of the macro-moves in the Textbook varies. While the first is displayed in four moves, the following do this in three. This evidences the non-existence of fixed rules or standard procedures for the organization of a genre. Table 4 summarizes a deeper analysis without identifying the specific steps of each move. This table shows the overall rhetorical organization of this genre, which gives definitions and describes macro-purposes and moves and relates them to an approximate textual structure. It also



**Figure 2.** Macro-moves and moves detected in the Textbook

shows the three macro-moves and the 10 more specific moves with their respective communicative purposes. Here, Macro-move 1 (*Preamble*) includes four moves, Macro-move 2 (*Conceptualization & Exercising*) includes three moves and Macro-move 3 (*Corollary*) is described in three more moves.

Based on the data, we identified an interesting overall distribution of the macro-moves. They clearly show an emphasis in a particular genre organization. What emerges is a special focus straightforwardly oriented towards pedagogical purposes, with a revealing display of didactic resources. The three macro-moves are evidence of this distinctive educational concern and prove that the writer/author is quite certain of the objective being pursued. The opening part of the book offers a *Preamble*, where essential keys are given for discourse comprehension and for precise reader orientation. The special concern of the writer/author is shown for the audience, to whom the objectives, procedures, indexes and other didactic resources are displayed – a concern for helping him/her to comprehend and learn from the text.

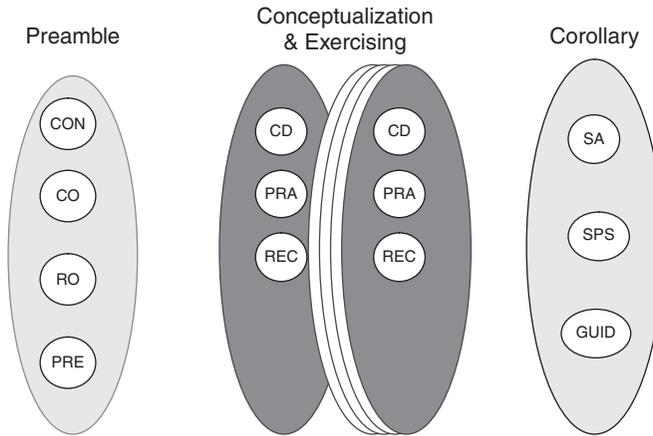
The second macro-move, called *Conceptualization & Exercising*, constitutes the heart of the Textbook and reveals its prototypic function, which is ‘to provide concepts and definitions, with examples, problems and solutions’ (see Table 4). This macro-move thus gives form to the genre’s nucleus and fulfils its most relevant macro-purpose. Identification of this macro-move reveals the importance of having included a more global and hierarchical level in the analysis. It also allows for emergence of a macro-category that would possibly not have been detected in a unique, more detailed analysis. By means of three specific moves, the second macro-move executes the genre fundamentals and condenses what is substantial to this discourse genre. The two first moves of this macro-move can be understood as important categories: Move 2.1. *Concept Definitions* (CD) and Move 2.2. *Practice* (PRA).

Figure 3 captures the idea that the nuclear *Conceptualization & Exercising* is repeated cyclically throughout textbooks and provides unity and coherence to this genre. These macro-moves are embedded recursively, developing thematic nodes that sometimes make up self-contained units. This organization approaches the idea of a ‘discourse colony’,

**Table 4.** Overall rhetorical organization of the Textbook genre

Move name	Communicative purpose (functional perspective)	Structure (formal perspective)
<i>Macro-move 1.</i> <i>Preamble (PREA)</i>	To present the book initially and provide useful information to help read the work	
Move 1.1. Contextualization (CON)	To relate parts of the text, to comment on its contents, and to include acknowledgements	Prologue/Preface
Move 1.2. Contents Organization (CO)	To show the book's contents and its thematic organization.	Thematic Index/ Contents
Move 1.3. Resource Organization (RO)	To support comprehension of the book's contents.	Index or Table of Symbols and Abbreviations.
Move 1.4. Presentation (PRE)	To comment on references, context and the objective of the text to the reader.	Introduction
<i>Macro-move 2.</i> <i>Conceptualization &amp;</i> <i>Exercising (C&amp;E)</i>	To provide concepts and definitions, with problems, examples and solutions	
Move 2.1. Concept Definitions (CD)	To describe and explain processes, objects or others.	Nucleus of a chapter
Move 2.2. Practice (PRA)	To present practical tasks based on the contents reviewed in the section.	Part of a chapter
Move 2.3. Recapitulation (REC)	To list global ideas.	End part of a chapter
<i>Macro-move 3.</i> <i>Corollary (COR)</i>	To complement and to deepen the central contents	
Move 3.1. Solutions and Answers (SA)	To point out solutions to the exercises and problems, and offer answers to the problems presented in each article.	Annexes/Appendices
Move 3.2. Specifications (SPS)	To support the comprehension of terms, units and abbreviations.	Annexes/Appendices/ Glossary
Move 3.3. Guidelines (GUID)	To offer bibliographical sources and support the search for topics through a guideline in alphabetical order.	Analytical Index/ Bibliography

as proposed by Hoey (1986). In this form of discourse organization, each discourse unit may become very independent and not directly linked to the others in terms of the construction of meaning. It would even be possible, in some cases, to reorder them randomly without affecting the global coherence or the text's overall thread (a good example could be a Regulation, where a list of rules is enumerated). However, this organization as a constellation of isolated and independent nuclei is not very common. In most genres, each macro-move or move is indeed related to the previous and subsequent ones, and different kinds of connections are established from one thematic nucleus to the next.



**Figure 3.** Diagram representing macro-move organization in the Textbook genre

A recursively reiterative macro-move that forms the central nucleus of this genre has emerged. This Textbook's organizational structure shows that *Conceptualization & Exercising* is displayed progressively throughout each text, revealing a very prototypical feature of this genre. This macro-move has no predetermined numerical occurrence and will be produced as many times as the contents of each text requires. The Textbook genre organization reveals a well-organized and hierarchical sequence of macro-moves where the nucleus may exhibit a cyclical form of organization. It is worth noting a clear concern for students or learners, who find a first source of specialized knowledge that may enable them to begin their academic and professional education in the texts belonging to this genre. The Textbook's organization reveals that it is made up of a group of rhetorical procedures that aim to gradually introduce the novice to specific contents and particular methodologies. At the same time, these discourse procedures are intended to develop in the students' or learners' particular ways of reasoning that are very much associated with the discipline involved, which the student should gradually acquire in order to be part of the discourse community. This evidences that the writers of textbooks are aware that the audience will have to adopt this way of reasoning, in view of which they will adequately grade the contents under study as long as they aim to create what Kantor et al. (1983) call 'considerate texts'.

'Considerate texts' are texts articulated in a special way in order to be more accessible to readers. Therefore, if textbooks are to be 'considerate', this means the author/writer of a textbook must cooperate with his/her readers. Communication may operate more effectively by following this rule. Kantor et al. (1983) propose four principles (partly inspired by Grice's cooperation principles) that they argue are inferred from the rhetoric and are supported by research in text comprehension. These principles are structure, coherence, unity and audience appropriateness. Thus, a 'considerate text' is clear and direct in its message and allows the reader to elaborate information efficiently and with a minimum of cognitive effort.

### 3.2. Macro-move 1: Preamble

Table 5 illustrates the organization of Macro-move 1. Some examples are also given, taken from corpus texts from several disciplines.

One of the interesting findings emerging from this analysis is the non-existence of a canonical order for the moves included in Macro-move 1. The most prototypical form of organization is to find the *Contextualization* at the beginning, but *Contents Organization*, *Resource Organization* and *Presentation* may also appear randomly. The sequence proposed in Table 5 is detected to be the most common, but the inclusion of *Contextualization* before 1.2. and 1.3. is also offered as an optional alternative. Another important finding is that this tendency towards non-canonical and regular organization also applies to the presentation order of most of the steps in each move belonging to Macro-move 1. This is the case for Move 1.1. and Move 1.4. This characteristic of Macro-move 1 will partly coincide with what will happen in Macro-move 3, but it is not detected in Macro-move 2 (Textbook's nucleus).

Some of the moves included in the Textbook genre may undergo a much more detailed analysis, as is the case with the *Presentation*. However, as has been stated previously, we

**Table 5.** Detailed rhetoric organization of Macro-move 1. Preamble

Name of move and steps	Communicative purpose (functional perspective)	Structure (formal perspective)
Move 1.1. <i>Contextualization (CON)</i>	To relate parts of the text, to comment on its contents and include acknowledgements.	Prologue/Preface
Step 1.1.1. Situating the Reader (SR)	To explain the context for the text's production.	
Step 1.1.2. Expressing Acknowledgments (EA)	To express thanks to editors, collaborators, students and others.	
Move 1.2. <i>Contents Organization (CO)</i>	To show the book's contents and its thematic organization.	Content Index
Step 1.2.1. Presenting the Contents (PC)	To offer a list of sections and/or parts of the contents of the book by means of a numbered list.	
Move 1.3. <i>Resources Organization (RO)</i>	To support the comprehension of the book's contents.	Index or Table of Symbols and Abbreviations
Step 1.3.1. Supporting Comprehension (SC)	To give a list of symbols used in the text that support comprehension	
Move 1.4. <i>Presentation (PRE)</i>	To describe antecedents, context and objective of the text for the reader.	Introduction
Step 1.4.1. Declaring Textbook Purpose and Audience (DTPA)	To describe the objective and audience.	
Step 1.4.2. Describing the Thematic Nucleus (DTN)	To present the specific thematic nucleus to be discussed.	
Step 1.4.3. Giving Guidelines (GG)	To describe textbook phases, steps or stages.	

have decided on analysis of a more abstract level, which may immediately account for the complete genre organization, as from the analysis of each text (the length of which ranges from 200,000 words in average). In fact, this higher degree of analytical abstraction implies a level of minor granularity in the analysis but makes it possible to obtain a level of global completeness that allows for the study of each text as a complete unit.

In order to exemplify one step of this macro-move, the following passage of a Textbook on Industrial Chemistry is presented, where Step 1.4.1 from Move 1.4. *Presentation* is displayed.

#### Step 1.4.1. Declaring Textbook Purpose and Audience

*Esta breve y concisa introducción a la química de coordinación, a la del estado sólido y a la inorgánica descriptiva de los elementos representativos se ha concebido para el estudiante que ya ha realizado un curso de iniciación. Se ha realizado con material obtenido por profesores y estudiantes, en clases, seminarios, sesiones de repaso y discusiones dentro y fuera de las horas de trabajo, así como con los libros de texto normalmente utilizados en estos cursos. (CA-QUI-ma420)*

This brief and concise introduction to the chemistry of coordination, of the solid state and inorganic description of the representative elements, has been conceived for the student who has already passed an introductory course. It has been carried out with material obtained from teachers and students, in class, seminars, revision sessions and discussions within and out of working hours, as well as with the textbooks normally used in these courses. (CA-QUI-ma420)

This example shows concern about the need to identify explicitly the kind of reader for whom the book is intended: a person who already has some experience with the subject matter. The sources of the material used for the text are also declared, with special emphasis placed on revealing the context in which some of these were issued. At the same time, it is explained clearly herein that the objective is to introduce a specific topic briefly and concisely. The passage is identified in the example with the classification code assigned within the PUCV-2006 Corpus. Thus, it is possible to consult each text online, with its corresponding morphosyntactic labels, by means of the 'El Grial' interface at [www.elgrial.cl].

### 3.3. Macro-move 2: Conceptualization & Exercising

Table 6 gives a detailed description of Macro-move 2, its moves and its steps. As in the preceding section, the communicative purposes and examples are also included.

As mentioned before, a cyclical and spiral-directed form of organization stands out as the distinctive feature of this genre's core. A sequence that operates regularly and repeatedly as many times as the conceptual framework disposition that sustains each text is required. At the same time, another interesting finding is the systematic identification of an organization, in which each of the moves of the second macro-move is displayed, revealing a very regular pattern in the articulation of each new *Conceptualization & Exercising* macro-move. Thus, each constitutive move and each particular step are presented in a very carefully planned and hierarchical sequence, where the contents being developed are treated systematically in a perfect execution of the pattern displayed. It is evident that the

**Table 6.** Detailed rhetorical organization of Macro-move 2: Conceptualization & Exercising

Name of move and step	Communicative purpose (functional perspective)	Structure (formal perspective)
<i>Move 2.1. Concept Definition (CD)</i>	To describe and explain processes, objects or others.	Nucleus of a chapter
Step 2.1.1. Linking Contents (LC)	To link new concepts or procedures with those of one or more preceding articles.	Introduction to a chapter/section
Step 2.1.2. Presenting the Topic Nucleus (PTN)	To describe and define the object, concept or procedure under study, often accompanied by drawings, figures, tables or formulae.	Nuclei or units of a chapter/section, where a multimodal component is highlighted
Step 2.1.3. Specifying Components or Sections (SCS)	To subclassify or divide the concept or procedure under study into parts, with descriptions and definitions of types, parts or components.	Subunits of a chapter/section
<i>Move 2.2. Practice (PRA)</i>	To present practical tasks based on the contents reviewed in the section.	Part of a chapter
Step 2.2.1. Presenting an Exercise or Example (PE)	To present a problem, exercise or example, accompanied by one or more questions directly related to previous definitions and descriptions.	Exercise–Problem–Example
Step 2.2.2. Solving the Task (SC)	To solve the problem in a concise and direct manner or propose strategies for solving it. Formulae, mathematic equations and brief explicative or descriptive phrases are used.	
Step 2.2.3. Expanding Practice (EP)	To deliver more problems or examples (without the solution).	Supplementary Exercise/Problem
<i>Move 2.3. Recapitulation (REC)</i>	To list global ideas.	End part of a chapter
Step 2.3.1. Macro-semantizing the Contents (M)	To sum up or define nuclear concepts, objects or procedures presented in the article; normally, introduced by means of vignettes.	Summary

writers/authors of most of these textbooks appear to be very conscious of the rhetorical organization they aim to articulate in order to operationalize this genre into particular texts.

The cyclical disposition of this macro-move, along with the moves and steps throughout each text, accounts for the way in which the information is organized and reveals, on the one hand, a very recursive format and, on the other, a hierarchical method of organization.

Each chapter repeats – in general terms – the same organization. Thus, moves 2.1., 2.2. and 2.3., with their respective steps, display the contents and guide the reader into practice with each new conceptual nucleus. This reveals the purpose of teaching new ideas to the student through these textual sequences and, subsequently, of exercising these ideas by means of a set of problems and solutions. In fact, as Hyland (1999) states, textbooks are a repository of knowledge that opens paths to beginning learners in the discipline and allows them to construct preliminary access to this specialized knowledge.

To exemplify part of this macro-move, three passages from textbooks from Construction Engineering, Psychology, and Social Work were chosen so that steps 2.1.2., 2.2.1. and 2.3.1. may be identified.

Step 2.1.2. Presenting the topic nucleus (Move 2.1. Concept definitions)

*Componentes del concreto*

2.1 Cemento

*El cemento a emplear en pavimentos de concreto será normalmente el de tipo I, es decir, el de tipo común. En casos especiales en que los pavimentos están expuestos a acciones moderadas de sulfatos, o por requerimientos de tiempo de hidratación, se utilizarán los cementos II a V. En general, el cemento empleado deberá cumplir minimamente con las Normas de Calidad vigentes de la S.C.T. Ref. 1. (CA-IC-ma372)*

Concrete components

2.1. Cement

The cement to be employed in concrete pavement will normally be type I, i.e., the common type. In special cases where the pavement is exposed to moderate sulphate action, or because of hydration time requirements, cements II to V will be used. Generally, the cement used must at least comply with the S.C.T. Ref. I Quality Standards in force. (CA-IC-ma372)

The passage of this text from Construction Engineering opens with a subtitle announcing the upcoming definitions: *Concrete Components*. It is followed by a subnumeration clearly indicating a series or list, beginning with the name: *Cement*. Specifications are given there. In this example, one may note the information advancement and the link to specialized knowledge already presented in the text.

The following example realizes a fundamental communicative purpose in support of the aforementioned definitions and specifications.

Step 2.2.1. Presenting an exercise or example (Move 2.2. Practice)

VI. PREGUNTAS Y EJERCICIOS

*¿Qué hitos históricos marcaron el nacimiento y desarrollo de la Psicología Educativa?*

*¿Qué desafíos le esperan a esta disciplina en construcción?*

*¿Cuál es el rol que debe jugar un Psicólogo Educacional en la realidad actual?, ¿Qué habilidades nuevas debiera desarrollar? (CA-PSI-ma37)*

## VI. QUESTIONS AND EXERCISES

- ° What historical milestones marked the birth and development of Educational Psychology?
- ° What challenges await this discipline in construction?
- ° What role must an Educational Psychologist play in the present reality? What new skills should he/she develop? (CA-PSI-ma37)

This example was taken from a textbook from Psychology and shows how information that has formerly been studied is put into practice. By means of open-ended questions, it aims to strengthen the learning of conceptual nuclei and to support the reader in his/her comprehension and projection of the knowledge under study. It is relevant to highlight the differential character of the first question with regard to the last two questions. The first points to a reproduction of previously presented new knowledge, while the other two lead the reader to make evaluative and projecting inferences. These two last questions reveal the way in which the constructing knowledge is directed in disciplines of social sciences and humanities. There is not necessarily a body of objective knowledge, nor is there intended to be one. Therefore, the reader is stimulated to seek ways and form his/her own opinion of the events under study.

Step 2.3.1. Macro-semantizing the contents (Move 2.3. Recapitulation)

### 1.4. RESUMEN

*Hemos visto cómo el medir consistía en asignar números y que el conjunto de éstos era una variable. Los números asignados, en base a una normativa que es el objeto de la teoría de la medida, ofrecían diferente cantidad de información. Los niveles nominal y ordinal se conocen como niveles débiles de medida y los niveles de intervalo y razón como niveles fuertes de medida. (CA-TS-ma231)*

### 1.4. SUMMARY

We have noted how measurement consisted of assigning numbers and that the total amount of the same was a variable. The numbers assigned, based upon a norm that is the object of the measuring theory, offered different amounts of information. The nominal and ordinal levels are known as weak measuring levels and the levels of interval and reason as strong measuring levels. (CA-TS-ma231)

This last example is taken from a Social Work textbook. In the passage, it is clear that the writer/author is concerned with taking up the thread of exposition and summing up the previously treated contents. This rhetorical step illustrates the didactic attitude detected in this genre. The writer/author seeks to support the reader and therefore applies summarizing strategies to the contents as a closing step for what had been studied. This is how the communicative purpose of teaching is carried out and how it functions as a guiding light in the learning process.

From these examples, we noted a gradual exercising of nuclear concepts of varying degrees of difficulty. Also, solving questions and problems, together with the application of summarizing strategies at the closing of the section of the text, demonstrates how the process of disseminating knowledge operates within this genre and, more specifically, within each of the disciplines of the corpus. This 'step-by-step' design of the progressive approach to scientific knowledge implies careful planning and ranking of disciplinary contents; at the same time, it shows a planned interaction between the writer and the reader, where the role of the novice audience is evidently identified. Thus, the writer/author assumes the role of a specialist in a discipline that guides the student through a methodical path to specialized knowledge by means of previously organized steps. This writer–reader communication is made sufficiently clear in this knowledge-disseminating genre by each text that reveals the mechanisms put into practice in order to fulfil its general communicative purpose.

### 3.4. Macro-move 3. Corollary

Table 7 presents the details of Macro-move 3.

The third and last macro-move is displayed in three moves: *Solutions and Answers*, *Specifications* and *Guidelines*. Together, they operate in five steps that execute the Textbook's closing segments. As stated previously, the organizational sequence of these moves may not always display a canonical order. There is a certain degree of variability in their order of occurrence between one text and another, although all of these are always a part of the same macro-move. For example, Macro-move 3.1., *Solutions and Answers*, may appear subsequent to Move 3.2., *Specifications*, although the last one is always Move 3.3., *Guidelines*. This means that a certain degree of interchangeability between the first two moves is feasible, but this is not the case with the third one.

The same occurs with certain steps within some of these three moves. For example, steps 3.2.1., *Giving specifications*, and 3.2.1., *Defining terms*, may be interchanged in terms of their order of appearance without this affecting, in the words of Kantor et al. (1983), the unity or the coherence of the text. These steps may also coincide with Hoey's (1986) idea regarding a discourse colony, since this random organization reveals autonomy between these, where the global meaning is not derived from the sequence in which they appear.

The *Corollary* Macro-move stands out because it contributes to the contents with more exercises and solves the proposed problems (Move 3.1). Thus, the didactic function of this genre is fulfilled once again. Likewise, the communicative purpose underlying the last two moves, *Specifications* and *Guidelines*, is to introduce ways to build knowledge, supporting the new ideas with (among others) annexes, glossaries, tables of contents, analytical indexes, and key terms.

**Table 7.** Rhetorical organization of Macro-move 3: Corollary

Name of move and step	Communicative purpose (functional perspective)	Structure (formal perspective)
<i>Move 3.1. Solutions and Answers (SA)</i>	To point out solutions to the exercises and problems and give answers to the problems presented in each chapter.	Annexes/Appendices
Step 3.1.1. Resolving and Answering (RA)	To give solutions to exercises and answers to problems presented in each of the preceding chapters.	Annexes/Appendices
<i>Move 3.2. Specifications (SPS)</i>	To support comprehension of terms, units and abbreviations.	Annexes/Appendices/ Glossary
Step 3.2.1. Giving Specifications (GS)	To give a set of tables where diverse technical information is recorded.	Annexes/Appendices
Step 3.2.2. Defining Terms (DT)	To support comprehension of technical terms, presented in alphabetical order and accompanied by a brief definition.	Glossary/ Key Terms/ Definitions
<i>Move 3.3. Guidelines (GUID)</i>	To offer bibliographical sources and support the search for topics through an alphabetically ordered guideline.	Analytical Index/ Bibliography
Step 3.3.1. Declaring Sources (DS)	To give bibliographical references.	Bibliography/ References
Step 3.3.2. Listing Subjects of Text in Alphabetical Order (LS)	To offer a list of the subjects of the book in alphabetical order, with indications as to their location in the text.	Analytical Index

In order to exemplify this macro-move, a passage from a Social Work text was selected that accounts for Step 3.2.2., Defining terms, which belongs to Move 3.2., *Specifications*.

Step 3.2.2. Defining terms (Move 3.2. Specifications)

*Glosario*

*Acoso sexual: insinuaciones, comentarios o comportamientos de tipo sexual que una persona plantea a otra que no los desea en los que persiste, aunque está claro que esa segunda persona se resiste a ellos.*

*Agentes de socialización: Grupos o contextos sociales en los que tienen lugar los procesos de socialización. La familia, los grupos de amigos, los colegios, los medios de comunicación y el ámbito laboral son los lugares en los que se produce este aprendizaje cultural. (CA-TS-ma222)*

## Glossary

Sexual harassment: insinuations, comments or behaviour of a sexual nature that one person implies to another who does not welcome them [and] in which the person persists, although it is clear that the second person is resisting them.

Socializing agents: Groups or social contexts where the processes of socialization take place. Family, peer groups, school, the media and the workplace are the places where this cultural learning is produced. (CA-TS-ma222)

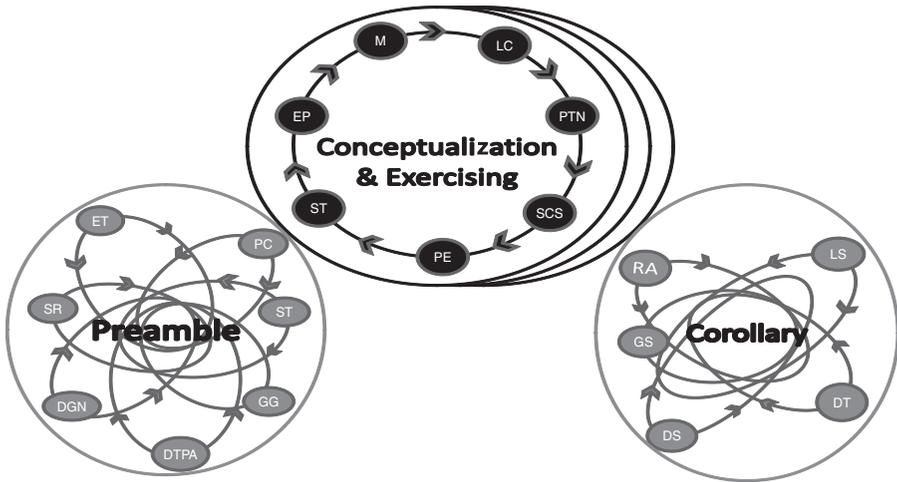
In the passage where the closing move is identified, comprehension of the contents is supported via the definition of relevant terms, which are unquestionably new to the student, in the writer/author's view. This didactic resource again points out the special concern for a semi-lay audience, an audience in the process of acquiring new disciplinary knowledge, and shows the organization of procedures that support the reader.

## 4. Summary

Further to the presentation of macro-moves and identification of the corresponding purposes, as well as the respective examples from texts belonging to the PUCV-2006 Corpus of Spanish in four disciplines, four unexpected findings emerged from the analysis of this genre. They constitute a very particular superstructural organization in which prototypic features were identified from the macro-level to the most micro-organizational level. These are a) the cyclic nature of some macro-moves and moves, b) the degree of hierarchy governing some moves and steps, c) the degree of interchangeability of some moves and steps, and d) the central or obligatory role versus the satellite or more optional function. These all revealed the highly prototypical organization of the Textbook.

These features may be diagrammed into a three-pronged design where two of the components share some characteristics, such as interchangeability in the distributional position and a more satellite role with respect to the genre macro-purpose. The third component is identified as central and highly hierarchical in the distribution and occurrence of the internal steps, where this is the component that provides the structuring nucleus for this genre. The two more satellite and distributionally flexible components are the *Preamble* and the *Corollary*. The Textbook nucleus comprises *Conceptualization & Exercising*. It is possible that this particular organizational form has not been identified before, since the available literature does not record similar data. Therefore, these empirical findings may show some degree of originality in research concerning genre and its rhetorical organization. In brief, the Textbook characterization may be modelled by means shown in Figure 4.

Based on this figure, the opening and closing macro-moves show a high degree of interchangeability between the constitutive moves and steps within each macro-move (*Preamble* and *Corollary*). This means that they show flexibility in their order of occurrence. In addition, it is evident that they are not explicitly linked and do not need each other for the global coherence and unity of the text. Thus, each of them



**Figure 4.** Flexibility and rigidity of macro-moves in the Textbook genre

executes an independent discursive process and fulfils its communicative purpose in an independent manner. In contrast, the central and most prototypical macro-move of the Textbook (*Conceptualization & Exercising*) reveals a highly internal hierarchical organization. All moves and steps within each macro-move follow a sequential and linear pattern that does not admit mobility or interchangeability. This hierarchical sequence ensures an adequate approximation process for disciplinary knowledge and a progressive increase in the degree of difficulty of the contents. An important mechanism in this process is the relation between the moves, by means of linguistic interconnections – as these may allow, for instance, anaphoric references between textual sections. Thus, construction of an integrated global and complementary meaning is ensured. On the other hand, a spiral and recursive distribution of one macro-move as a whole is noticeable. Each conceptual unit, together with the exercises, problems and solutions, may be repeated as many times as book organization requires.

This distinctive rhetorical organization may be called a ‘colony-in-loops’. This expression coincides with what is illustrated in Figure 4, on both global and internal levels. There is a certain degree of encapsulation of each of the three constitutive macro-moves, but, at the same time, these are linked to a macro-organizational level in a hierarchical way. In addition, in the two satellite macro-moves, the idea of a colony emerges due to interchangeability and flexibility in the distribution of the moves and steps of each of the two macro-moves.

Nevertheless, the Textbook nucleus shows that it is highly linked in its internal organization. This distributional sequence is characterized by a series of compartments that, at the same time, are steadily organized. This is why the ‘colony-in-loops’ characterization may be applied.

## Conclusions

Identification of the rhetorical organization of a genre such as the undergraduate university Textbook has proved to be a complex task. The analytical procedures applied allowed us to identify a set of moves specific to the genre and to construct adequate operational definitions. As part of this task, the triangulation stage turned out to be highly important and helped to corroborate and adjust researchers' preliminary intuitions.

Fulfilling the objectives of this research, the Textbook corpus demonstrated that it was satisfactorily sufficient in order to obtain reliable and robust results. Thus, it was possible to contribute larger generalizations from the findings and to develop prototypes that are representative of the genre, with the support of examples. It was also possible to make comparisons with other genres and thereby bring out the most characteristic features of the Textbook.

Given the length of the texts that make up this genre and the decision to aim for a higher level of abstraction in the analysis (although with a minor degree of granularity), the concept of *macro-move* proved to be an innovating resource that helped to obtain a better preliminary approximation of this genre. In addition, the analytical and complementary methodology of the deductive-inductive or 'top-down' and 'bottom-up' processes was a fundamental support for the segmentation and identification process for communicative purposes, in the macro-moves as well as on the other levels of analysis.

Considering the most important findings of this study, special attention should be given to identification of the prototypical rhetorical organization of the Textbook genre, which has been named the 'colony-in-loops' form. This particular organization is characterized by four features: a) the spiral and cyclical nature of certain macro-moves and moves, b) a hierarchical sequence of certain macro-moves and moves, c) flexibility inside a macro-move and the distributional interchangeability of some moves and steps, and d) the central or satellite function of certain macro-moves. The complementarity of all these features as part of the complex organization of a structure, with groups of independent colonies on macro- and micro-levels, emerges as prototypical of the Textbook.

All of these features result in textbooks being 'considerate texts' (Kantor et al., 1983) where specialized knowledge is delivered in a way intended to disseminate it. This means that this rhetorical organization pays particular attention to an audience under academic instruction, together with a sequence of contents supported by means of didactic resources – such as, on one hand, problems and exercises and, on the other, tables, figures and diagrams. Textbooks – in our opinion – are still only one genre and do not constitute a system of genres such as the newspaper. Even though being a 'colony-in-loops', it is a discourse colony, not a colony of genres.

## Acknowledgements

The research was funded by FONDECYT N°1060440.

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