ACADEMIC AND PROFESSIONAL GENRE VARIATION ACROSS FOUR DISCIPLINES: EXPLORING THE PUCV-2006 CORPUS OF WRITTEN SPANISH*

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Abstract: The elusive concepts underlying the word genre offer different alternative conceptions. This may produce confusions but identifying the theoretical frameworks help in understanding the possible preliminary doubts of the novice. Systemic Functional Linguistics (SFL), New Rhetoric (NR), Semiolinguistics (SL), Communicative Procedural Text Linguistics (CPL), Interdisciplinary Text Linguistics (ITL), and Genre Analysis (GA), among others, are all theoretical propositions that represent options to be explored. In this paper, a discussion of the contemporary conceptions of discourse genre will be presented. My own perspective will also be a particular focus, but with special emphasis on findings from empirical data. The research is based upon the largest available on-line corpus (58 million words) of written specialized Spanish on four disciplines: Psychology, Social Work, Industrial Chemistry, and Construction Engineering. The corpus was collected in one Chilean university and the corresponding professional settings. The corpus description shows that access to disciplinary knowledge is constructed through a varying repertoire of written genres depending on disciplinary domain and on academic or professional field. Psycholinguistic and educational implications are advanced in relation to knowledge acquisition, discourse genres and reading comprehension.

Keywords: Specialized discourse. Written genres. Academic discourse. Professional discourse. Corpus linguistics. Electronic corpora.

1 INTRODUCTION

What exactly are discourse genres? Are they units of analysis created by some radical empirical scientist? Are they closed units, easily defined and operationalized? Are they found ‘out there’ as some scientists suggest or are they purely ‘mental’ artefacts as other scientists propose? Most of these questions circulate erratically in genre analysis and in genre theory. Some perspectives are excessively partial. They

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demonstrate diverse interests, aims, origins and various characteristics. The elusive and divergent theoretical conceptions underlying the term genre offer a wide diversity of alternative options. This may undoubtedly confuse and mislead the novice, but equally the expert. Approaches from New Rhetoric, Language for Specific Purposes, Systemic Functional Linguistics, Semiolinguistics, Discourse Analysis, among others, are all options to be explored and discussed. In some cases, highly relevant differences are detected, both in the very nature of the genre definition and in its classification and educational applications. Similarly, the focus of attention and the means of approaching genre analysis vary greatly, as do the type of categorizations or taxonomies and the method of executing empirical investigations. In some options, compatible focuses are rendered impossible but conflicting principles may be inferred.

From the perspective of genres and disciplines, academic and professional genres involve a set of features which have not been adequately described, and thus it is not easy to help readers of such texts to achieve deeper levels of comprehension. This is partly responsible for negative epistemic attitudes towards specialized texts, based on the impression that they are inaccessible. This means that, for a novice reader, reaching a particular level of disciplinary specialization becomes a slow and complex process.

Few studies focus on the links between academic and professional discourse genres from a corpus perspective. A significant amount of research focuses on disciplines such as medicine, law, business, history, and the area of governmental organizations (e.g. TROSBORG 2000; GALLARDO 2005; ALCARÁZ VARÓ; MATEO; YUS 2007; CIAPUSCIO 2007; FACCHINETTI 2007; MAHLBERG; TEUBERT 2007; CANDLIN 2002; DEVITT 2004); yet there are few robust empirical studies in other areas of knowledge (except, for example, BRUCE 2008; BIBER, Connector; UPTON 2007; WIGNELL 2007; CONOR; UPTON 2004; CURADO, EDWARDS; RICO 2007; FLOWERDEW 2002; SWALES 2004; Vine 2004; BARGIELA-CHIAPPINI; NICKERSON 1999). There are no previous examples of contrastive studies based on university degree programs and their corresponding professional settings. Previous studies of Spanish, based on recent data, focus mainly on specialized discourse or academic discourse (e.g. CUBO de SEVERINO 2005a, 2005b; CASTEL,
The research study reported in this article is based on a large contrastive corpus and moves towards a more ecological and representative description of variation existing across genres and disciplines (PARODI, 2010). This paper provides information about the processes of collecting, constructing and describing an academic and a professional written discourse corpus on four disciplines: Industrial Chemistry, Construction Engineering, Social Work, and Psychology. This is followed by a comparison of the genres identified, along with an analysis of the findings.

2. THEORETICAL FRAMEWORK: GENRES AS COGNITIVE CONSTRUCTS

The status of the cognitive dimension within language studies has shown a relatively uncertain course. The term cognition or cognitive has been rather absent in studies over the past twenty to thirty years. This does not of course include the work of Noam Chomsky or the disciplinary area known as cognitive linguistics. This relative absence of these terms not only reflects the lack of attention focused on this dimension, but it also supports the idea that the focus of attention has been placed on other theoretical foundations. Nevertheless, the presence of other terms does draw the attention, such as knowledge, thought, experience, meaning, processing, concepts, and ideas. This means that there exists what may be called a mentalist or psychological linguistics, in which mental facts are recognized, but from which no investigation has been made into processes of a clearly cognitive nature. A conceptual vagueness is detected. This makes it clear that a tendency to leave aside the cognitive dimension of language has taken place (PARODI, 2008a).

With regard to discourse genres from a linguistic perspective, we observe no important use of cognitive terms and, when it does occur, it is vague. The exceptions are few, though in recent years increasing attention has been given to the cognitive dimension of genre (BHATIA 2004; VIRTANEN 2004; van DIJK 2008; BRUCE 2008). This lack of
commitment and precision is abundant. It is evident that genre theory has tended to exclude the cognitive dimension, or it has certainly denied, underestimated, and underemphasized the relationship between cognition and language. A multidimensional conception of genres must visualise the different axes which comprises. This conception must determine the basic dimensions which support the complex view to which we adhere. Figure 1 shows an interactive conception of genre in which a cognitive dimension, a social dimension, and a linguistic dimension are proposed as fundamental.

![Diagram of Dimensions of Discourse Genre](image)

Figure 1 – Dimensions which interact in the construction of genres

Without denying the proposed dimensions involved and the diverse interactions implied in this conception of genre, I would like – with a pedagogical perspective in mind- to emphasise the conception of discourse genres as a cognitive construct. This dimension has not been considered sufficiently and the tendency has leaned excessively towards an externalist semiotic conception of genres (HALLIDAY 1978; KRESS and THREADGOLD 1988; MARTIN 1992; STUBBS 2007). Despite this, the aim here is certainly not to atomise the richness of genres, but in fact to introduce and emphasize a dimension which I believe has been,
be it intentionally or naively, forgotten or overlooked. This dimension is vital to a full comprehension of the object in question (a more detailed discussion with respect to the internalism/externalism continuum is found in PARODI 2008a, 2010), but must not be at any rate understood I diminish or erase the others: genres are above all a psychosociolinguistic construction.

It is commonly accepted nowadays that human beings build knowledge via interaction with other human beings and in contexts which demand a diverse range of discourse instruments. There is evidence, however, that knowledge, constructed through ontogenetic processes, is stored in the memory of the readers/writers and speakers/listeners in a complex representational form, whose format has not yet been completely determined. Two singular conceptual constructs which are relevant to the cognitive dimension of genres will be discussed. Over recent years the so-called situation model (van DIJK; KINTSCH, 1983) has gained importance as a knowledge representation built from discourse processing. Such a level of cognitive representation may also display genre knowledge, given that genres exist because the expert reader/listener must possess a mental representation of the social situation in which they are produced and used. Likewise, the concept of context model, coined more recently by van Dijk (1999, 2006, 2008) also points to the type of knowledge which is referred to in this article. This claim gives support to the cognitive nature of the context construct in discourse processing. These two models imply diverse types of knowledge, some more procedural, others more declarative. Both models are offered as a path to better comprehension and explanation of the cognitive operations involved in the construction of discourse genres. For space and focus reasons, detailed explanations of these models are not included here (see previous references to van Dijk).

These two cognitive constructs provide singular support for a genre theory in which the cognitive dimension offers stability to knowledge. These two models help explain the psychological substrate of the processing of written discourse. They reveal that genres are not entities which exist ‘out there’ but are in fact constructed from knowledge elaborated from a socioconstructivist approach and are stored and activated through different types of memory systems.
This integral conception points to a wider approach and reflects the multidimensionality of the concept of genre. Thus, genres are more than mere social constants, as are behaviour and interaction patterns (defined uniquely by variables of social context: place, participants, etc). This conception provides a more encompassing perspective and one with a cognitive substrate. It also helps overcome reductionisms implied by extremely rhetorical or contextualist approaches (Parodi 2008a, 2010). Similarly, as indicated above, emphasis is placed on the cognitive dimension of genres, since this aims to claim the central role of the human being as a speaker/writer and listener/reader within a dynamic and participative communication process. It is definitively the human being who constructs the discourse genres in his/her mind as communicative instruments, using contexts and specific social situations and, of course, by interacting with the rest of the world. Thus, genre knowledge, socially and individually constructed, is stored in the form of cognitive representations and, from this perspective, they will be activated and will materialise in specific texts, within social and cultural contexts, according to the nature of each case.

In the same argumentative line, an integral conception of genre is offered here without distinctions between social genres and cognitive genres (Bruce 2008) or between more social and other more linguistic or cognitive variants (van Dijk 2008). The distinctions made by Bruce or van Dijk are between planes or dimensions within an integral conception; and thus the same is the case here. If, however, what is taken from one or the other of these authors is the idea of different genres on different planes, I certainly disagree.

From my point of view, the Bakhtinian concept of genre (though powerful in a certain sense and illuminating for the initial discussion) becomes narrow. The exclusively contextualist emphasis from a socio-semiotic perspective has, in my opinion, fallen into a new theoretical and methodological reductionism. It is therefore imperative to overcome these weaknesses in the conception of discourse genres. Genres as series of social interaction mechanisms are created in discourse practices which allow the construction of discourse representations. Based on these, they are built and rebuilt by means of cognitive and linguistic constructs which, together, are complexly formed. Definitively, the discourse context of genres is based on knowledge which is fundamentally of a
cognitive nature, and so what gives permanence to the genre construct is the subject and their memory of previous events experienced in specific environments and interactions.

From this socioconstructivist principle, genres evolve and respond to new communicative demands. Every single individual organises his/her knowledge dynamically through cognitive representation systems which use categorization and hierarchy mechanisms. Different theories demonstrate the structure of knowledge, such as the theories of schemes, frameworks or scenarios. Other theories integrate knowledge from multiple sources and account for procedural dynamic representation structures. One central idea, which is currently very controversial, is the actual format and mode of operation of cognitive knowledge representations. Three alternative options co-exist: a propositional approach, a connectionist approach, and a hybrid approach (a combination of these two) (van DIJK; KINTSCH 1983; RUMELHART; MCCLELLAND 1986; KINTSCH 1988, 1998). For a brief revision and critical analysis of these proposals see Parodi (2005, 2007a, 2010) and Ibáñez (2007).

My own approach to the term genre implies a progressive enrichment of my conception of human language in concrete manifestations which is operationalized in particular communicative situations and interactions. Hence, terms such as text type or class imply a more reductionist and focused on excessively linguistic perspective. The term genre demonstrates a wider perspective and reflects the multidimensionality of language in action. As stated above, it aims to find a more encompassing and integral perspective and to overcome the reductionism implied in the extreme internalist or contextualist dichotomy.

Therefore, the cognitive dimension, the social dimension and the linguistic dimension interact in a complex way, giving form to discourse genres. This integrating and encompassing conception tends towards the comprehension of a subject and his/her language, while giving a central role to the subject and his/her social construction of knowledge. This subject interacts in a specific context and constructs his/her reality using situated cognitions and deliberate conduct, in interaction with other subjects.
This cognitive conception of genres carries a direct link to the mental processing, in this case, of written discourse. Thus, from this perspective, the relationship between genres, their respective linguistic structures and their consequent psycholinguistic processing opens new niches for research. For example, investigation of organizational cognitive constructs and the possibly existing hierarchy of different written genres and their degree of comprehension are highly relevant themes. Specifically, the study of the relations among the cognitive organization of genres, the structure of specialized cognitive knowledge, the linguistic organization of texts and the comprehension of written texts offer unexplored fields. These fundamental interactions are represented in the following figure.

![Interactions among linguistic structures, cognitive representations, and psycholinguistic processing](image)

Figure 2 – Interactions between linguistic structures, cognitive representations and psycholinguistic processing

The comprehension of written texts which carries disciplinary knowledge in relation to the lexicogrammatical structure of the genres and the previous knowledge of the reader constitute a little-explored field. This research area must be investigated in order to offer an adequate understanding of the specialized literacy processes of disciplinary genres.
As is well known, diverse types of genre emerge in response to and in order to satisfy different communicative demands, and thus their rhetorical linguistic structure and organization are as such in order to achieve these aims. The question highlighted in Figure 2 is, precisely, whether the distinct discourse genres entail or imply different types or levels of cognitive processes, those which in turn would be consolidated in diverse representations and which would demand distinct types of inference.

From this viewpoint, it is not simply a case of researching the specialized communicative demands made of students in a certain discipline, but it is also relevant to investigate whether these demands vary between disciplines. Despite these declarations of principles, it is vital to clarify that theory construction must be supported by a system of experimental empirical focal points which give information that inspires and feeds new reflection. Whether these data corroborate or refute the hypothesis of the researcher, the permanent synergic relationships between the theoretical and empirical axes constitute a mechanism which assures continual revision, construction and reconstruction of some theoretical principles, supported by the gradual approximation to reality.

3. THE RESEARCH: COLLECTING THE ACADEMIC AND PROFESSIONAL CORPUS

Our research objectives focus on the description of the written genres that are used in four university undergraduate programs and their corresponding professional workplaces by collecting and studying the written texts that are read in these contexts and through which specialized knowledge provides access to disciplinary interactions (PARODI 2010). We examine assigned student readings in four academic disciplines (Psychology, Social Work, Construction Engineering, and Industrial Chemistry) and the written texts that form the core of daily written communication in professional settings that correspond to these disciplines.
3.1 The Academic Corpus

The academic corpus was constructed by the collection of close to 100% of the written material read during each year of the curriculum for each of the four degree programs 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 Figure 4.

<table>
<thead>
<tr>
<th>Step 1: Construction of a database with all the information from the curricula of the four university degree programs (including that of each course)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 2: Construction of a database from all obligatory and complementary bibliographic references included in the study programs</td>
</tr>
<tr>
<td>Step 3: Preparation of a survey of all professors from each of the four programs, including a request for complementary materials not included in the course programs</td>
</tr>
<tr>
<td>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</td>
</tr>
<tr>
<td>Step 5: Internet search with the aim of finding the selected books which were available in digital format, thus minimising digitalization efforts</td>
</tr>
<tr>
<td>Step 6: Collection of the texts from the corresponding libraries and from the professors’ offices</td>
</tr>
<tr>
<td>Step 7: Process of photocopying each text with the aim of building a paper database</td>
</tr>
<tr>
<td>Step 8: Training of a team of assistants to scan and compile all texts</td>
</tr>
<tr>
<td>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>.</td>
</tr>
</tbody>
</table>

Figure 4 – Steps in the collection and processing of the Academic Corpus

3.2 The Professional Corpus

To collect the professional corpus, all students from years 2000 to 2006 who were enrolled in the four degree programs mentioned above were contacted and invited to participate in the research. This first contact explored whether the subjects would fit the profile of a graduate as determined by the degree program. It is important to point out that we were not interested in studying the means by which the professional corpus is stored or transmitted (paper, electronic, the internet, etc). Our interest was focused on building a profile of the principal genres employed in each specialized professional field. This part of the study...
did not attempt a quantitative analysis of each of the identified genres, as was our aim with the academic corpus. The final objectives of this collection process were to identify the written communication practices of each working environment and to collect as much prototypic written material as possible from that which is read by the subjects in the performance of their professional activities.

Figure 5 shows the activities carried out in building the professional corpus.

<table>
<thead>
<tr>
<th>Step 1: Construction of a first database of the graduate professionals from the four degree programs over a period of five years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 2: Selection of the number of professionals who fulfilled the prerequisite of working in the field of their professional qualification</td>
</tr>
<tr>
<td>Step 3: Contact via telephone with the graduates and programming of interviews</td>
</tr>
<tr>
<td>Step 4: Carrying out interviews, by a group of assistants, in situ using an ad hoc protocol, with the objective of requesting examples of written texts used daily in the workplace</td>
</tr>
<tr>
<td>Step 5: Contact via e-mail with the participants in order that they might provide other materials in electronic format, as agreed in the interview</td>
</tr>
<tr>
<td>Step 6: A search in libraries, companies or on the internet for certain materials mentioned by but not received from the professionals surveyed</td>
</tr>
<tr>
<td>Step 7: Construction of a second database using the students carrying out their final supervised work experience in the four degree programs</td>
</tr>
<tr>
<td>Step 8: Determination of an accessible number of interviewees per discipline or area of specialization in order to contact them and request materials from them</td>
</tr>
<tr>
<td>Step 9: Contact via telephone, e-mail or via the supervising professors of the final work experience in order to set up an interview in the university with the aim of obtaining written texts used daily in the workplace</td>
</tr>
<tr>
<td>Step 10: Photocopying of all texts collected from the first and second groups with the aim of building a paper database</td>
</tr>
<tr>
<td>Step 11: Training of a team of assistants to scan and compile all texts</td>
</tr>
</tbody>
</table>

Figure 5 – Steps in the collection of the professional corpus

3.3 Approaching the disciplines of the corpus

As mentioned above, the corpus was compiled from four university degree programs and from the four professional areas linked directly to them. Figure 6 below shows the four academic and professional areas divided into scientific fields:
The choice of these four disciplines, as anticipated in the introduction, was 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 with those of the professional world in which the studies are put into practice, 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).

4. RESULTS AND DISCUSSION

The first part of this section contains a quantitative description of the corpus. Given the different collection processes used for the academic and professional corpora, the figures are shown separately.

4.1 Genres in the Academic Corpus of Spanish

Figure 7 presents the general number of texts collected, expressed in percentages.
A clear distinction emerges from these data between SS&H and BS&E: there are a greater number of texts to be read by students of SS&H. In other words, students of SS&H are expected to read far more written material in comparison with students of BS&E. From these figures it is evident that, for example, Psychology students would read four times as much as Industrial Chemistry students. Table 1 shows information in terms of number of texts and number of words for each of the degree programs.

Table 1 – Breakdown of the academic PUCV-2006 corpus of Spanish

<table>
<thead>
<tr>
<th></th>
<th>Texts</th>
<th></th>
<th>Words</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>Psychology (PSY)</td>
<td>227</td>
<td>46</td>
<td>21,933,860</td>
<td>37</td>
</tr>
<tr>
<td>Social Work (SW)</td>
<td>142</td>
<td>29</td>
<td>18,641,309</td>
<td>32</td>
</tr>
<tr>
<td>Construction Engineering (CE)</td>
<td>69</td>
<td>14</td>
<td>8,734,086</td>
<td>15</td>
</tr>
<tr>
<td>Industrial Chemistry (IC)</td>
<td>53</td>
<td>11</td>
<td>9,285,375</td>
<td>16</td>
</tr>
<tr>
<td>Totals</td>
<td>491</td>
<td>100</td>
<td>58,594,630</td>
<td>100</td>
</tr>
</tbody>
</table>

As already mentioned, the irregular distribution of percentages confirms the concentration of written material in SS&H. Psychology has not only the largest number of texts (227), but also the largest number of words (21,933,860); Industrial Chemistry has the fewest number of texts.
The figures in Table 1 coincide in a revealing way with the ideas developed from Figure 7. Table 1 confirms the tendency towards a greater number of texts and words in the field of SS&H. This implies a larger amount of reading, in terms of time dedicated to academic activities and the scope of material to be processed. While the difference in number of words between SS&H and BS&E is important, its distribution is not as remarkable as that of the number of texts. The fact, however, that the range of texts to be processed by students in the two SS&H degrees (30% and 39%) is twice that of the two BS&E degrees (15% and 16%) indicates a clear tendency towards a progressive increase in number of words and number of texts based on the degree program and the disciplinary area.

The figures presented in Table 1 constitute a genuine milestone. There are no many corpora around the world, collecting academic and professional disciplinary domains, which may be compared to this one in nature and size, not even in English. This means that the PUCV-2006 Corpus is a corpus which is subdivided into disciplines and in which the texts are classified into discourse genres, including data on the number of words and texts; also, the digital texts are also available on-line for consultation free of charge (www.elgrial.cl).

In order to classify all texts in the corpus into specific discourse genres, we use both communicative-functional and textual-discourse criteria. Table 2 shows the nine genres that were identified and the figures for each type from the total of the academic corpus PUCV-2006. Precise definitions and procedures for each genre are given in Parodi, Venegas, Ibáñez, and Gutiérrez (2008).

Table 2 – Distribution of the academic corpus by genre

<table>
<thead>
<tr>
<th>Genres</th>
<th>Number of texts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dictionary (DC)</td>
<td>2</td>
</tr>
<tr>
<td>Didactic Guideline (DG)</td>
<td>41</td>
</tr>
<tr>
<td>Disciplinary Text (DT)</td>
<td>270</td>
</tr>
<tr>
<td>Lecture (LECT)</td>
<td>1</td>
</tr>
<tr>
<td>Regulation (REG)</td>
<td>15</td>
</tr>
<tr>
<td>Report (REP)</td>
<td>11</td>
</tr>
<tr>
<td>Research Article (RA)</td>
<td>22</td>
</tr>
<tr>
<td>Test (TEST)</td>
<td>3</td>
</tr>
<tr>
<td>Textbook (TB)</td>
<td>126</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>491</strong></td>
</tr>
</tbody>
</table>
As can be seen in Table 2, a very heterogeneous distribution of genres emerges, but with clear concentrations. Two genres are by far the most frequent: Disciplinary Text (DT) and Textbook (TB). This gives an initial overview which combines specialized communication conveyed through different discursive texts, such as DTs and TBs. The DTs deal with specialized disciplinary knowledge in the form of subject matter books (also called disciplinary books), and sometimes show a high level of complex and dense prose. The TBs, although also oriented towards disciplinary knowledge, have more didactic communicative purposes, intended for a relatively uninformed audience. In the TBs, the process of knowledge construction is supported, in most cases, in the form of diverse pedagogical resources (graphs, tables, diagrams, etc.) and is also scaffolded for the reader through exercises, glossaries, and knowledge application.

The corpus presented here is, comparatively, lacking in Didactic Guidelines (DGs) (only 41 were found). Although this genre is the third commonest in the corpus, we expected to find more of them, given that these texts have been collected from four university degree programs and from academic curricula over a period of four to five years. This finding reveals that this is a genre indeed employed in university academic life, but TB and DT are more common. Also of interest is the paucity of Research Articles (RAs) (22), which could reasonably be assumed to be associated with BS&E degrees. The few examples of RAs are another remarkable finding that may be explained by the fact that they are the most important medium for up-to-date and cutting-edge information, which may predominate in graduate rather than in undergraduate studies.

As a way to analyse the data from another perspective, Figure 8 presents the distribution of the academic genres across disciplines.

It is not surprising that the TB reveals itself as a focal academic genre. It is the only one used across all four disciplines. This finding partially reveals the way in which students approach new knowledge in these four disciplines. The TB fulfils a clear didactic communicative purpose within university settings and represents an important discourse tool for opening new pathways to disciplinary knowledge. Its prototypic rhetorical structure involved the presentation of concepts and definitions of increasing complexity, the posing and solving of problems and
exercises, and the inclusion of glossaries (for a detailed description of its rhetorical organization, see PARODI 2008b, 2008c). This shows that scientific information is codified in a precise sequence and that, at the same time, different instructional resources are displayed in order to support access to new information and test it through direct questions and problems.

Figure 8 – Distribution of academic genres by discipline

The distribution of the nine genres across the four disciplines indicates an interesting overlap of academic genres and a lesser tendency towards exclusive discourse resources. Of the nine genres, 78% are found in at least two of the four disciplines being studied, and only 22% of the genres are found to be exclusive to one discipline. Psychology is the discipline in which all nine genres are identified, so psychology is revealed as the most heterogeneous of the other three disciplines, as opposed to CE, which only has two genres (TB and DG).
Four genres are detected as exclusive to the two disciplines of SS&H: RA, REP, TEST, and LECT, whereas more restrictions in terms of genre variation are detected in BS&E. Only two genres are used in IC and five in CE. These findings provide some indication of fundamental discourse distinctions between SS&H and BS&E, which implies the existence of differences in linguistic, cognitive, social, and communicative dimensions associated with genres.

4.2 Genres in the Professional Corpus of Spanish

The following is a brief quantitative description of the professional corpus. As mentioned above, this does not represent an exhaustive search of all the texts in circulation, but an attempt to build a general profile of the genres. Our aim was not to collect the largest number of texts possible, but to obtain the most diverse variety of material circulating in the workplaces.

Table 3 – Breakdown of the Professional Corpus

<table>
<thead>
<tr>
<th>Area</th>
<th>Texts</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychology</td>
<td>220</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Social Work</td>
<td>101</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Construction Engineering</td>
<td>62</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Industrial Chemistry</td>
<td>59</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>442</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Table 3 reveals a proportional similarity to the figures of the academic corpus, as shown in Table 1. Although a complementary collection procedure was used, a larger quantity of available material was again found in the areas of SS&H (PSY with 50% of the total). A decreasing distribution of percentages can be observed, as with the case of the academic corpus, through PSY, SW, CE and IC. Surprisingly, this finding indicates a correlation with respect to the number of written texts which circulate in both the university and the workplace in the four disciplines.
Following the same classification procedure as used with the academic corpus, all the texts in the professional corpus were analysed by the research team in order to find the emerging genres. A total of 28 discourse genres was determined for the four disciplines. Precise definitions of each professional genre may be found in Parodi et al. (2008). In Figure 9, all genres are listed alphabetically with their corresponding acronyms.

<table>
<thead>
<tr>
<th>Bidding Specification</th>
<th>BS</th>
<th>News</th>
<th>NEW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brochure</td>
<td>BRO</td>
<td>Observation Guideline</td>
<td>OG</td>
</tr>
<tr>
<td>Calculation Log</td>
<td>CL</td>
<td>Operating Manual</td>
<td>OM</td>
</tr>
<tr>
<td>Call for Bids</td>
<td>CB</td>
<td>Plan</td>
<td>PLA</td>
</tr>
<tr>
<td>Certificate</td>
<td>CERT</td>
<td>Quotation</td>
<td>QUOT</td>
</tr>
<tr>
<td>Commercial Catalogue</td>
<td>CC</td>
<td>Record</td>
<td>REC</td>
</tr>
<tr>
<td>Development Plan</td>
<td>DP</td>
<td>Regulation</td>
<td>REG</td>
</tr>
<tr>
<td>Dictionary</td>
<td>DIC</td>
<td>Report</td>
<td>REP</td>
</tr>
<tr>
<td>Disciplinary Text</td>
<td>DT</td>
<td>Research Article</td>
<td>RA</td>
</tr>
<tr>
<td>Law</td>
<td>LAW</td>
<td>Research Project</td>
<td>RP</td>
</tr>
<tr>
<td>Lecture</td>
<td>LECT</td>
<td>Statement</td>
<td>STA</td>
</tr>
<tr>
<td>Medical Order</td>
<td>MO</td>
<td>Test</td>
<td>TES</td>
</tr>
<tr>
<td>Medical Report</td>
<td>MR</td>
<td>Textbook</td>
<td>TB</td>
</tr>
<tr>
<td>Memoranda</td>
<td>ME</td>
<td>Thesis</td>
<td>THE</td>
</tr>
</tbody>
</table>

Figure 9 – The twenty-eight genres of the professional corpus

The diversity of genres identified based on texts collected from the workplace is more heterogeneous in nature than that emerging from the university settings — four times larger, to be exact. A preliminary analysis reveals there is considerable knowledge specialization and disciplinary restriction for some genres (e.g., Call for Bids, Regulation, and Development Plan), and a high level of general usage with others (News, Dictionary, and Plan). Some genres are the same as those identified in the academic corpus (e.g., Research Article, Disciplinary Text, and Textbook).

Genres with a high degree of specialized communication interactions were found in the professional corpus. Some of them clearly respond to particular communicative purposes in business transactions,
and are involved in regulatory procedures, reporting and describing medical situations, dissemination of information, and knowledge acquisition. Examples of these are Bidding Specifications, Call for Bids, Quotations, Medical Reports, Brochures, and Textbooks. As regards cross-linguistic impact, the study conducted by Barbara and Scott (1999) on six texts (three in English and three in Brazilian Portuguese) of what they called Invitation for Bids (IFBs) corresponds to what we named Call for Bids (CBs). In their study, they described linguistic features of the IFBs and also advanced a preliminary description of the basic ‘rhetorical moves’ of this genre. Interestingly, they found discourse organization and communicative purpose similar to our Spanish collection of CBs (cf. Parodi 2008b, 2008c).

Figure 10 illustrates the occurrence of each genre across the four disciplines.

![Figure 10](image_url)
The most remarkable finding is that only three genres are shared by the four fields of professional activity: Research Article (RA), Brochure (BRO), and Report (REP). This finding supports empirically the assertion made earlier about recurrence of certain genres across the disciplines. All these three involve a high degree of specialization and are typical of discourse interactions in specific communication settings. It is not surprising that RAs appear in the four disciplines, as they represent a vital instrument for the acquisition of cutting-edge knowledge. This indicates that in the four specialized fields, this written genre is used by professionals to access information on their discipline as part of daily working activities. BRO and REP are also important in transmitting and receiving information. BRO provides relevant data and transmits such data to diverse audiences (for example, a medical brochure on contagious diseases). REP, in all four disciplines, informs on the situation, procedure or analysis of a case of commercial interest, medical state or business transaction. The information in Figure 5 also shows that there are only three genres (LECT, TB, and OM) that are linked to three disciplines (SW, PSY, and IC), while REGs are exclusive to PSY, IC, and CE, and REC are specific to SW, PSY, and IC.

Three genres were found in only two disciplines: CERT in PSY and IC; ME in IC and CE; and DT in SW and PSY. It is interesting that a genre like the CERT circulates in disciplines from both SS&H and BS&E, while the remaining two are linked to certain specialties in both fields. MEs appear only in the two so-called natural sciences and DTs are exclusive to the field of Social Sciences and Humanities, as was seen with the academic corpus. This is a consistent phenomenon that reveals a distinction in the transference and construction of disciplinary knowledge. While the MEs are important means of communication in BS&E, and they show how the flow of information is accomplished in organizations (requesting, organising and directing actions), the DTs reveal a special focus on the need for ongoing updating of knowledge as this is codified in disciplinary books in SS&H. This finding reveals the relative requirements of discourse interactions in organizations of different nature. At the same time, it is important not to forget that the RA was found in all four disciplines, reflecting the need for updated information in all professionals. Nevertheless, distinctive resources to fulfil this need also emerge for the SS&H. This finding shows how
knowledge is constructed and reproduced differently in the disciplinary areas involved in this study, not only in professional settings but also in academic ones.

Of the twenty-eight genres, only eleven are found in two, three or four disciplines. The other seventeen are exclusive to only one of the four disciplines. This means that 61% of the genres are specific to only one specialty, which shows the specialized nature of discipline communication and the requirement for constructing particular discourse instruments to fulfil specific communicative purposes. Similarly, 39% of the genres show some degree of variability in distribution over the four disciplines and only 10% appear in all four.

4.3 Academic and professional genres: Commonalities and differences

The final part of this article compares the academic and the professional corpus. Figure 11 shows venn diagrams of the two.

![Genre Presence within Academic Corpus and Professional Corpus, PUCV-2006](image)

**Figure 11 – Genre between AC and PC (irrespective of discipline)**
Only the Didactic Guideline (DG) is exclusive to the academic corpus, while there are twenty genres exclusive to the professional corpus. Eight genres were found to be shared and used in both academic and professional settings. These findings reveal a situation not previously identified in specialized literature: few genres can be identified as prototypically academic. As previously stated, the DG emerges as the only genre exclusive to higher education for these four university degree programs. This finding may not be surprising, but its empirical nature shows how university instruction develops and uses specific discourse resources for exercising teaching contents and helping students to access disciplinary information. It is also evident that this written vehicle constructs and opens new knowledge spaces which put applied or theoretical contents into practice in a decidedly didactic way. Eight genres are shared between the academic and the professional settings. They constitute a bridge between academic worlds and professional life. In fact, for example, TBs, RAs, DICs, and DTs are genres which serve communicative purposes within the university and the workplace as repositories of disciplinary knowledge. Interestingly, these three genres very probably fulfil similar functions in the workplace, although the specific aims of their use may vary greatly.

The profile emerging from Figure 11 reveals a continuum of access and incorporation across the discourse community, even though it may not be a response to conscious and careful planning. In other words, it can be viewed as proceeding from an initial point within academia, starting with didactic and disseminating genres (such as DGs and TBs), as well as another eight with more specialized features which will also be found subsequently in professional settings. The extreme of the continuum, observed in Figure 11, is revealed to the professional subject only once they enter the professional world.

Conversely, the reduced variety of genres found in academic settings (only nine), in comparison with the broader and more diverse number detected in the workplace, could present an obstacle when passing from academic to professional life. The discourse genres collected from professional settings differ greatly from those identified in the academic world in rhetorical organization and communicative purpose, as well as in lexicogrammatical resources. This may well lead to a slowing of the integration process which could affect the initial
performance of the graduates in the workplace. This raises several questions: Should the academic world include the study of genres which are found in the workplace? Or should institutions and professional organizations assume responsibility for developing the discursive skills required to comprehend and produce the specialized written genres they work with everyday? Is professional literacy in reading and writing genres in fact an issue for professional settings?

Figure 12 displays only those genres which appear in both corpora and the same discipline. Note that if a particular genre appears in the academic environment of a discipline but is not detected in the professional setting of that same discipline, it will not appear in this figure.

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Figure 12 – Academic and professional genres through the four disciplines
No single genre is found in both the AC and the PC and within all four disciplines. This means there is no genre typifying written discourse across the four disciplines which can transfer easily from academic to professional settings. In fact, each genre tends to reveal certain features which are very idiosyncratic and conventionalized in response to specific communicative purposes. As can be observed in Figure 7, only seven genres are found with a diverse degree of commonality across the four disciplines: TB, TD, RA, REP, LECT, TES, and REG.

Only one genre is shared by the AC and the PC across three disciplines (IC, SW, and PSY): the Textbook. As already said, the TB is a conventionalized form of knowledge dissemination, supported by various didactic resources. This genre (TB) is meant to serve the goals of specific discourse communities that share purposes common to the academic and the professional communities. As stated above, TB also responds to conventionalized communicative settings in routine interactions in which didactic resources, such as definition, explanation, and exemplification of concepts and theories, are introduced progressively.

These findings show that there are genres which are found in more than one of the four disciplines being studied, though not in all four and in both corpora (AC and PC). This supports a tendency towards the specialization of certain genres in certain areas of knowledge (e.g. DT in SW; LECT and TEST in PSY, and REG in CE). This is also evident from the fact that TB is the only genre of the academic and professional corpora which is shared by three disciplines. Thus, TB functions as a mediator between less specialized knowledge and disciplinary specialization. As was previously stated, its pedagogic orientation makes it a useful discourse in both university and professional settings, though, of course, not in all four fields.

The fact that DT is the only genre shared across the academic and professional corpora in SW indicates that in this SS&H discipline the construction of scientific knowledge is carried out through a notably complex genre. The rhetorical structure of the DT is supported by few if any didactic resources and it shows a definitive orientation towards high levels of specialization and concentration of a dense prose (IBÁÑEZ, 2008). The data contained in Figure 12 also show the existence of more genres interacting between academic and professional settings in the
disciplines of SS&H. Five genres in total appear in PSY and SW (DT, REP, DIC, LECT, and TEST), while only one is detected in CE (REG). No genre, except the TB, is found in the AC and PC in IC. This reveals the specificity and difference of genres existing in university and in professional settings in the two disciplines of BS&E.

5. CONCLUSIONS

The following conclusions are based on the findings reported in this presentation. We will give an overview of the most important outcomes emerging from the research.

(1) There are significant numerical differences in both the number of texts and in the number of words between the academic corpus in SS&H and the BS&E. This is related to the different amount of written material that students are exposed to in their education, and also to a greater variety of genres which circulate in some university degree programs. The implications for the construction of disciplinary knowledge, for variation in discourse genres, and for the development of skills in the comprehension of written texts are numerous and open to further investigation.

(2) Two genres appear most often in the academic corpus: the DT (270 texts) and the TB (126 texts). This shows a balance between a highly specialized genre with almost no concern for laymen or semi-laymen (e.g. DT) compared with the special attention given to supporting learners through the use of didactic resources in order gradually to open access to disciplinary knowledge (e.g. TB).

(3) There is greater variety in academic genres of SS&H (five in SW and eight in PSY) than in those of the BS&E (two in IC and five in CE). Among these, PSY comprises the most heterogeneous of the disciplines, as it reveals examples of all the genres identified in this corpus. Subsequent research should focus on a detailed and comparative study of these genres in one or more disciplines in order to detect more similarities and differences.

(4) There is greater diversity of professional genres than in the AC. The 28 genres identified reveal written means of communication, some of which are very prototypical to the disciplines, and some of
which are highly specialized to specific contexts and functions (e.g. Calculation Log, Bidding Specification, Medical Report, and Observation Guideline).

(5) Of the 28 professional genres, only eleven are found in some or all of the disciplines and 61% of the total number corresponds to only one discipline. Therefore, the aforementioned specialization is directly related to one particular area of knowledge.

(6) The absence of the majority of these genres in the academic corpus implies that professionals meet and learn to deal with them directly in the workplace, without specific education or previous knowledge of the genres.

(7) It is necessary to explore these genres in detail and to carry out a more detailed analysis to obtain more information on their prototypical features, on their form of discourse organization, on their rhetorical structure, and on their linguistic features, etc.

Regarding similarities and differences between the corpora:

(1) Most genres collected in written professional communication reveal a repertoire that does not occur in academic settings (see PARODI 2008c for a detailed analysis of the constitution of the so-called ‘academic discourse’ as a ‘mixed discourse’).

(2) There is no discourse genre which co-exists in both the AC and the PC and which is also present across the four disciplines. This reveals that the disciplines have a genre-specific character in both the university and the professional settings. Therefore, there is no means of crossing from the academic world to the professional world within the four disciplines in the form of some prototypical discourse pathway.

(3) The DG emerges as the only genre to distinguish the academic corpus from the professional corpus over all four disciplines. Interestingly, the DG is one genre characterized by special emphasis on didactic resources and institutional tasks, those features which are prototypical in an educational environment.

(4) There are few intersection points between the corpora in terms of genres which coincide in the four disciplines. Only seven genres cross over.
(5) Of these seven genres, a total of five (71%) are found exclusively in the academic and professional settings of SS&H.

In summary, the practical relevance of collecting corpora of natural, machine-readable texts from a variety of written and oral interactions allows contrastive research which helps discover emerging text and discourse features impossible to identify through isolated text samples, or even fragments of texts. Using principles of corpus linguistics, researchers can capitalise on computational advances that make it possible to work with annotated texts and may explore all dimensions of language, including semantics and multimodal discourse. Thus, a corpus with close on 57 million words in digital format, organized by topics and genres, provides an important resource for carrying out cutting-edge research in Spanish.

The analysis provided by the genre descriptions helped uncover fundamental discourse and genre distinctions between SS&H and BS&E. Interesting differences emerged from the comparison of academic and professional corpora in similar disciplinary domains. It is clear that the texts employed as reading material in some academic disciplines (‘hard sciences’) are not the same as in other scientific areas (‘soft sciences’). The findings show that the discourse of Social Sciences and Humanities is constructed and re-constructed through different linguistic, cognitive, social, and communicative dimensions, as opposed to Basic Sciences and Engineering. This implies that the members of the corresponding discourse communities interact in different conventionalized social behaviours and construct different meanings that employ different discursive mechanisms; all of this supports the claim that cognitive representations of meaning should be different in some way. The construction of knowledge through these divergent genres gives support to this assertion.

Full participation in disciplinary and professional cultures demands informed knowledge of key written genres. These are intimately linked to a discipline’s norms, values, and ideologies. They package information with which professionals communicate with their peers. Understanding the genres of written communication in a field is, therefore, essential to professional success. The discourse and cognitive demands these genres require of professionals cannot be determined in the framework of the present study, but it is a challenging open area of
research. These findings also provide information for exploring the activities and practices in which genres are embedded.

Research studies like the one described here also have pedagogical implications concerning: (a) the selection of written genres, (b) the elaboration of teaching materials, and (c) the preparation of language tests of various kinds, such as the assessment of disciplinary contents and of specialized discourse comprehension. This is because the genres detected in each discipline constitute the language use employed in the written communication to which students and professionals are exposed. According to the results, students from the four disciplines under study need to develop their discourse and cognitive skills to master very particular, specialized varieties of written Spanish —academically dense prose with specific lexical, morphological, and syntactic features, typical of disciplinary texts and technical textbooks. The current data reveal that the complementarity of academic and professional literacy must be explored as a requirement for the development of efficient readers and writers. Given the large number of genres emerging in professional settings which are different from those employed in academic university life, this will have to be pursued as a cooperative venture involving lifelong learning across academic and workplace sites.

REFERENCES


Título: Variações de gênero acadêmico e profissional através de quatro disciplinas: explorando o corpus PUCV-2006 do espanhol escrito.
Autor: Giovanni Parodi
Resumo: Os conceitos elusivos subjacentes à palavra gênero oferecem diferentes conceitos alternativos. Isso pode causar confusão, mas a identificação dos quadros teóricos ajuda a compreender as possíveis dúvidas preliminares do novato. Linguística Sistêmica Funcional (LSF), Nova Retórica (NR), Semiolinguística (SL), Linguística Textual de Processos Comunicativos (LTPC), Linguística de Texto Interdisciplinar (LTI) e Análise de Gêneros (AG), dentre outras, são todos rótulos que representam opções a serem exploradas. Neste trabalho será apresentada uma discussão sobre os conceitos contemporâneos de gênero discursivo. Minha própria perspectiva também constituirá um enfoque particular, mas com ênfase especial sobre os achados empíricos. A pesquisa se baseia no maior corpus on-line de espanhol escrito especializado em quatro disciplinas: Psicologia, Serviço Social, Química Industrial e Engenharia Civil (58 milhões de palavras). O corpus foi coletado numa universidade chilena e nos ambientes profissionais correspondentes. A descrição do corpus mostra que o acesso ao conhecimento de uma disciplina é construído por meio de um repertório variado de gêneros escritos dependendo do domínio da disciplina e do campo acadêmico ou profissional. As implicações educacionais e psicolinguísticas são apresentadas com relação à aquisição de conhecimento, gêneros discursivos e interpretação de texto.

Título: Variación de género académico y profesional a través de cuatro disciplinas: exploración del corpus PUCV-2006 del español escrito
Autor: Giovanni Parodi
Resumen: Los conceptos elusivos subyacentes a la palabra género ofrecen diferentes conceptos alternativos. Esto puede producir confusión, pero la identificación de marcos teóricos ayuda a comprender las posibles dudas preliminares del novato. Linguística Sistêmica Funcional (LSF), Nueva Retórica (NR), Semiolinguística (SL), Linguística de Texto de Procesos Comunicativos (LTPC), Linguística de Texto Interdisciplinar (LTI) y Análisis de Géneros (AG), entre otras, son todos rótulos que representan opciones a ser explotadas. En este coloquio será presentada una discusión sobre los conceptos contemporáneos de género discursivo. Mi propia perspectiva también constituirá un enfoque particular, pero con énfasis especial sobre los hallazgos empíricos. La investigación se fundamenta en el mayor corpus
online (58 millones de palabras) de español escrito especializado en cuatro disciplinas: Psicología, Asistencia Social, Química Industrial e Ingeniería Civil. El corpus fue recogido en una universidad chilena y en los ambientes profesionales correspondientes. La descripción del corpus muestra que el acceso al conocimiento de una disciplina es construido por medio de un repertorio variado de géneros escritos dependiendo del dominio de la disciplina y del campo académico o profesional. Las implicaciones educacionales y psicolingüísticas son presentadas con relación a la adquisición de conocimiento, géneros discursivos e interpretación de texto.