

GENRE KNOWLEDGE IN THE NEEDS ANALYSIS PROCESS: USING A WRITING ACTIVITY TO ASSESS PRESENT-SITUATION

Bruna Gabriela Augusto Marçal Vieira¹

ABSTRACT: The purpose of this paper is to present a perspective to carry out Needs Analysis based on sociorhetoric approach to genre developed by Swales (1990). Our proposal includes a language and a register analysis, in addition to the move analysis proposed by Swales's theory, in order to suggest a pedagogical methodology to help teachers and course developers develop an English for Academic Purposes course (EAP). Twenty-three abstracts produced by Brazilian Computer Science graduate students are analyzed. The genre knowledge proved to be an appropriate methodological tool for assessing present situation, regarding the current knowledge of the students on the productions of abstracts in English, which revealed a need for a course focused on the social aspect of academic genres.

KEYWORDS: Genre knowledge, Needs Analysis, academic writing, Computer Science graduate students

RESUMO: Este artigo tem por objetivo apresentar uma Análise de Necessidades realizada com base na perspectiva sociorretórica de análise e ensino de gêneros (SWALES, 1990). Nossa proposta inclui uma análise linguística e de registro, aliada a uma análise dos movimentos retóricos do gênero resumo de artigo de pesquisa, a fim de trazer uma metodologia pedagógica que ajude professores e desenvolvedores de cursos a elaborar cursos de inglês para fins acadêmicos. Vinte e três resumos produzidos por brasileiros, pós-

¹ PhD student in Applied Linguistics at Universidade Estadual Paulista – Júlio de Mesquita Filho (UNESP), Program of Linguistic Studies (funded by São Paulo Research Foundation – FAPESP. Process number [2015/11088-1](#)); and visiting scholar at University of California – Santa Barbara, Department of Education (also funded by FAPESP. Process number [2016/06589-4](#)). MA in Applied Linguistics on Language Teaching and Learning by UNESP; and Bachelor in Portuguese and French by the same university.

graduandos em Ciência da Computação, foram analisados. O conhecimento de gênero revelou-se uma ferramenta metodológica apropriada para a avaliação da situação presente – relacionada ao conhecimento atual dos alunos em produzir resumos em inglês – o que evidenciou a necessidade de um curso voltado para o aspecto social dos gêneros acadêmicos.

PALAVRAS-CHAVE: Conhecimento sobre gênero, Análise de Necessidades, escrita acadêmica, pós-graduandos em Ciência da Computação.

Recebido em: 26-07-2016

Aceito em: 12-12-2016

INTRODUCTION

Due to the relevance of specificity to English for Academic Purposes (EAP) (HYLAND, 2002), the sociorhetoric approach to genre (SWALES, 1990) appeared as an adequate teaching tool, which enables the work with language, text and contextual issues indissociably. For sociorhetoric, texts are created by a group of people who work together in order to reach common interests, and their shared communicative purposes lead them to a pattern in the use of discourse. Understanding this pattern, also called genres, help teachers comprehend the uses a specific community makes of language and that novices must know to be able to engage in the community. This knowledge guides teachers in the design of tasks that should facilitate for the students the acquisition of these genres.

Although the genre knowledge has been proven as an adequate teaching tool for EAP, little has been studied about its potential as a methodological tool, i.e. how the genre knowledge – especially the concepts of genre analysis and rhetoric models – may help in the Needs Analysis (NA). The few works on this

theme in the literature focus on genre analysis as a methodological tool for the target situation analysis, as Hyland (2004) suggested. What the present paper suggests is to use genre knowledge also in the present situation analysis.

In order to analyze the current knowledge of Brazilian Computer Science graduate students to produce academic texts in English, a written activity was proposed. It was applied to a sample of 25 students who had participated of two other phases of the NA, together with other 188 students, which aimed at raising information for the design of an EAP course for such an audience (VIEIRA & ARANHA, 2015; ARANHA & VIEIRA, in press). This sample was invited to produce an abstract in English over the research they were conducting then, and send it by e-mail to us. Twenty-three students sent their texts, and the analysis of the productions included the three factors described by Aranha (2009) as essential for the writing of socially recognized texts: language, register and genre.

ENGLISH FOR ACADEMIC PURPOSES

The teaching of English for Academic Purposes (EAP) has its roots in the old EST (English for Science and Technology), which aimed at teaching the academic register and the English grammar relevant for the reading of scientific texts (BENESCH, 2001). Developments in the linguistic studies brought new perspectives to EST, whose teaching ceased to be in the level of words and sentences, and started to be in the level of the text (SONGHORI, 2008). Focused on the rhetoric construction of texts, the EST, now known as EAP, believed that

the development of the paragraphs were shaped by hierarchical relations that limit and guide grammatical choices (BENESCH, 2001).

Since then, the EAP pedagogy has changed its focus on teaching. Recently, due to the idea that the knowledge is socially constructed, the focus of attention are the identification, analysis and comprehension of social practices that, at the same time, guide the language use and are guided by it (BENESCH, 1996, 2001). The focus in a critical pedagogy, which aligns textual and contextual knowledge in classes, does not mean that the previous perspectives were completely abandoned in EAP classes. As Songhori (2008) clarified, recently there has been a mix of teaching perspectives in EAP classes, depending on the view of the teacher about the needs of the students.

In order to decide in which teaching perspective to work, as well as other important issues related to the course design and application, it is necessary to have a wide comprehension of the context in which the course will be applied, and the needs of the students to perform well in that scenario. That is why the Needs Analysis (NA) is the most important and must be the first step in the design of an EAP course (BENESCH, 1996; GRAVES, 1996; FLOWERDEW & PEACOCK, 2001; HYLAND, 2002, 2004, 2006). As Gomes (2003) explained, NA tends to reveal important information about the context and the audience, which may lead to a more focused course, with well-defined goals.

Although there are a range of methods for conducting the NA process, such as questionnaires, interviews, participant and non-participant observation, authentic language data (texts and recordings), self-assessment, and learner diaries (FLOWERDEW & PEACOCK, 2001), as Graves (1996) stated,

identifying the learners' needs is not easy. According to the author, the students have needs so general that sometimes it is difficult to delineate a focus of study, thus, she suggests that the teacher think of activities and/or alternate methods to assess their needs, in order to be able to define real teaching goals.

For the purpose of assuring the investigation of the wide variety of factors involved in a course design and implementation, many approaches to NA have been developed, such as: target situation analysis, present situation analysis, deficiency analysis, learning strategies analysis (SONGHORI, 2008), and so on. Since the research presented in this article aimed at deepening the present situation analysis (PSA), only this NA approach is worth mentioning here.

The PSA aims at evaluating the current knowledge of the students on relevant communicative elements to perform well in a specific context, such as dialects present in the target situation, the genre the students must use, the level of proficiency in English etc. (HUTCHINSON & WATERS, 1987). As it can be seen, carrying out a PSA may not be simple, due to the amount of elements that must be considered. To this respect, the concept of genre is a useful tool, since it enables multiple analyses with a single instrument: the text.

The following section localizes the tradition to genre analysis on which this research is grounded.

THE SOCIORHETORIC APPROACH TO GENRE AND THE EAP PEDAGOGY

The sociorhetoric approach to genre analysis and teaching was developed by John Swales, whose primary interest was to solve a basic problem that language teaching was suffering in the early 90s: the comprehension of genre as a textual pattern, whose consequences for the teaching pedagogy are devastating (BIASI-RODRIGUES, HEMAIS & ARAÚJO, 2009), once it leads the learners to reproduce written formulas, rather than to communicate by means of written texts.

Understanding genres as socially and historically constructed, used in communicative events, in which the language, the purposes of the genre, the contexts of use, the users and their cultural and historical associations have significant and indispensable roles, Swales (1990) believed that genre, as a structured device to language teaching, is not condemned to promote thoughtless formula applications. For the author, it is possible to use genres for pedagogical purposes without reducing the courses to simple prescriptivism and formalism, offering the students opportunities to reflect upon their rhetoric and linguistic choices. To do so, it is necessary to contemplate, in genre analysis and teaching, the text, with all its structural features, and the context, in a way that the former is seen as an interlocution process.

Sociorhetoric has, thus, promoted a critical approach to genre analysis, which aims at tracking textual regularities and irregularities and explaining them in terms of the relevant and pertinent social circumstances and the rhetorical

demands they engender. Part of the work of genre analysts would then be “to refashion these findings so that, by comparison and contrast, by rhetorical consciousness-raising, and by task designs they can become more transparent to those who would wish or need to become better consumers or producers” of the targeted genre or genres (SWALES, 2009a, p. 14).

It is based on the analysis of rhetoric and linguistic regularities, grounded on the analysis of the motivation and the communicative purposes of the genre’s users, that sociorhetoric researchers have created rhetoric models of genres and of genre sections, such as the CARS (Creating a Research Space), elaborated by Swales (1990), which describes a rhetoric pattern in the structure of research articles’ introductions. Rhetoric models, as Swales (2009b) explained, have great potentialities as a support for the learning process, especially for those students who are learning how to write a new genre, once the models work as metaphors which reveals the discursive arrangements that operate as testable hypotheses for the communicative planning by the users of that genre.

Because it works with specific contexts, sociorhetoric genre analysis, according to Ramos (2004), seems to have found in the EAP pedagogy a prosperous place for its application, since, as Swales (2009a) stated, this approach to genre enables the EAP learners to relate language system and language use, goals and adequate linguistic strategies to reach them, keeping the attention in the rhetoric action and the organizational and rhetoric means of executing it.

All these benefits have caught the attention of EAP practitioners, who have implemented their courses, basing their teaching in sociorhetoric genre

analysis and teaching. In Brazil, it is worth mentioning the work of Aranha (2007a, 2007b, 2009, 2015), Ramos (2004, 2012a, 2012b) and Motta-Roth (2008, 2009, 2010). However, besides all the advantages this approach to genre brings to EAP teaching, it also has great potentialities as a methodological tool for the execution of NA. Sociorhetoric genre analysis enables the execution of the PSA, for example, because, as Bazerman, Bonini and Figueiredo (2009: X) concluded, it provides the understanding of “the specialized communicative needs that go beyond the traditional bounds of literacy education”, and of “the higher-level literacy demands of different academic disciplines”.

Thus, the execution of the NA activity, based on genre production, which aimed at raising information on the present situation, presented in this article, was grounded in sociorhetoric theory, and counted on a rhetoric model of abstracts, produced by Gil (2011). More information on that model is offered in the next section.

THE GENRE *ABSTRACT* AND GIL’S RHETORIC MODEL

Abstract was the genre chosen for the written activity of the NA due to two reasons: 1) The importance of that genre to Computer Science graduate students, as for the global scientific community (BIASI-RODRIGUES, 2009); and 2) the representability of the research article’s structure in the abstract (BIASI-RODRIGUES, 2009).

The analysis of the texts aimed at analyzing the three factors defended by Aranha (2009) as crucial for the students to know in order to write academic

texts socially accepted by the academic community: genre, register and language. Thus, the analysis assessed the knowledge of the students on 1) the rhetoric structure of the genre *abstract*; 2) the appropriate academic register to the genre; and 3) syntax, grammar and spelling of English, in order to see if their proficiency is appropriate for the writing of abstracts, in this specific context, to reach the communicative purposes they have for the use of the genre.

GENRE ADEQUACY

To verify the genre adequacy of the students' production, it was used the rhetoric model of abstracts elaborated by Gil (2011). Based on the rhetoric model of abstracts proposed by Bhatia (1993), she analyzed 30 pairs of abstracts in English and their respective text in Portuguese, taken from a Brazilian journal. In this research, the author found unconformities between the rhetoric moves proposed by Bhatia (1993) and those presented in her corpus. Therefore, she proposes a new model, encompassed by five rhetoric moves (Figure 1), whose order is not fixed. Besides, it may occur a combination of moves.

Move 1 – Contextualization: In this move, the author introduces the reader to the area in which the research is being conducted, or in the current scenery of the problem that will be approached in the research. Or, the researcher may give a brief explanation of the research tools, texts, author, among other sources and resources that was used in the research.

and/or

Move 2 – Objectives: This move aims at showing the reader the goals of the researcher that motivated such a study.

and/or
Move 3 – Methodology: Here, the author informs the reader how the research was conducted, its methodology for data raising and analysis.
and/or
Move 4 – Results: The function of this move is to indicate some of the results of data analysis.
and/or
Move 5 – Conclusion: In this move, the author interprets the results found.

Figure 1 - Rhetoric model of research article's abstracts (GIL, 2011).

In addition to the five moves, which may or may not occur in a research article's abstract, Gil presents the "organization" – a single move, which aims at presenting the path of information that the reader will find throughout the reading of the research article. See the example below:

[Organization] Considering the specificity of the dramatic text, we will debate which elements of this genre must be preserved in the translation; we will discuss the importance of some base metaphors and of their materialization in the poetic dramatic text as translation guiders. Finally, we focus on the presence of the earth metaphor (gê) in Sófocles' play, *Édipo Rei*, and the eventual substitution of this metaphor by other terms.

The reason for adopting Gil's model in this research is that at the time this research was conducted, it was the only rhetoric model of abstracts that had been produced based on the analysis of texts of Brazilian researches. According to Duszak (1995), different cultures have different intellectual styles, for that reason, "discussions about what has effect in academic communication should not be dissociated from the general value orientation in a given culture and the

predominant verbal style that goes with it” (p. 294). Hence, once the corpus of the present research is comprised by texts that were written by Brazilians, the closer the rhetoric model to be used in the analysis is to the culture of these writers, the better. Besides, although Computer Science graduate students publish their research articles and abstracts in English, according to the students, these publications tend to be done in Brazilian journals.

Register adequacy

The register analysis of the texts was based on Swales and Feak (1994), in which, grounded in research and teaching experiences, the authors offer theoretical explanations and practical exercises to develop academic writing of undergraduate and graduate students.

Swales and Feak (1994) defended the idea that the style in which a text is written is as important as the ideas and the data in it. According to them, writing research articles using the spoken English pattern, for instance, may be considered too simplistic, which may compromise the acceptance of the text by the academic community to which it is addressed. Therefore, the authors offered a theoretical ground for the right selection of verbs, nouns and other parts of the discourse which are more formal for the academic environment.

English adequacy

It is impossible to think about an ideal proficiency common to every student in every context. As Ramos (2008) explains, the necessary level of knowledge in the target language depends on the context in which the learner is, once, “what may be considered ‘basic’ to a waiter may not be for a pilot” (p. 75). Therefore, the aim of analyzing the adequacy of the texts to formal English is to verify if the students’ level of English is adequate for the production of written texts in the academic environment. This information is crucial for the selection of the content, and for the design of tasks of an EAP course for them.

So, this last analysis aimed at investigating the students’ writing appropriateness regarding to spelling, syntax and grammar, which comprised the analysis of verbal conjugation, preposition use and referrers.

DATA ANALYSIS

Twenty-three out of the 25 students invited for this part of the NA sent their written production. In this section, these texts will be analyzed regarding their adequacy to the genre *abstract*, to the academic register, and to formal English.

Genre adequacy analysis

The analysis of the adequacy of the students’ production to the genre *research article’s abstract*, based on the rhetoric model proposed by Gil (2011), revealed that, in general, the students are conscious of the content the genre

must contain, once none of the texts presented any move that was not expected for the genre. Besides, six abstracts presented the five moves proposed by Gil, showing that these writers face no problems related to this academic genre adequacy.

Other five texts presented a selection of moves that enabled the genre to reach one of its communicative purposes: to project the research article, helping the readers to decide for or against the reading of the research article (SWALES & FEAK, 2009), although they were not presenting all the rhetoric moves proposed by Gil. The recurrence (yet in a few texts) of abstracts compounded by the moves 1, 2 and 5 shows that some students are aware of that communicative purpose of the genre. By offering the context and the goals of the research, in addition to the conclusions about the relevance of the results for Computer Science studies, these abstracts accomplish the goal of urging in the readers the reading of the whole research article, as it can be seen in the example that follows:

[Move 1] The reduction of cost and running time provided by new generation sequencing technologies made possible the emergence of thousands of genome projects in the last few years. On the other hand, those technologies posed important computational challenges, pushing the advance of many research fields in computer science. Particularly, the de novo DNA fragment assembly, which is a fundamental stage in genome sequencing, is a complex problem that demands complex algorithms to solve it. **[Move 2]** Here, we provide a theoretical basis for the construction of a new method for de novo fragment assembly based on k-mer graphs. **[Move 5]** Our proposal encompasses many difficulties found in such problems using an unique procedure, in contrast with current methods that use several high-cost procedures to overcome the same issues. Furthermore, our approach is highly scalable since it allows the use of parallelism, being very suitable for solutions with graphics processing unit (GPU).

However, although the students' productions have only presented information already expected by the academic community for the use of research article's abstracts, it is not possible to say that all texts were written considering the social aspects that surround the use of the genre.

In some productions, it is possible to verify a lack of sociorhetoric consciousness, since the presented rhetoric structure does not enable the genre to reach its communicative purpose. For instance, it is possible to mention a rhetoric structure compounded by the moves 1 and 2, which was recurrent in the production of five students. Contextualizing and presenting the goals of the research offer information typically found in research article's introductions, specifically by the moves 1 and 3 (respectively) of the CARS model (SWALES, 1990).

Although that information is also found in research article's abstracts, limiting the genre to them does not offer the reader enough information to urge him/her to the reading of the research article, and it gives the abstract a configuration similar to a mini introduction. Bhatia (1993) explained that both the abstract and the introduction have great importance to the research article, but they have different communicative purposes, once, besides presenting the main issues of the research, the abstract also presents the conclusion made out of it.

Similarly, other five students produced texts whose rhetoric structure does not enable the genre to reach its main communicative purpose. Compounded by moves 1, 2 and 3, the texts contextualized, presented the goals and the methodology of the research, and so, did not present its results and conclusions,

failing in showing the readers the relevance of the research to the area. The text that follows is an example taken from the corpus of this research:

[Move 1] The increasing use of social networks generates enormous amounts of data that can be employed for various types of analysis. Some of these data have temporal and geographical information, which can be used for comprehensive examination. **[Move 2]** In this document, a new method is proposed to analyze the massive volume of messages available in Twitter to identify places in the world where events such as TV shows, climate change, disasters, and sports are emerging. **[Move 3]** The proposed approach is based on a neural network used to detect outliers from a time series, which is built upon statistical data from tweets located in different political divisions (i.e., countries, cities). These outliers are used to identify localized events within an abnormal behavior in Twitter. The effectiveness of the method is evaluated in an online environment indicating new findings on modeling local people's behavior from different places.

Other rhetoric structures that impose difficulties for the genre to reach its communicative purposes were found in two texts, in which one of the most important information that the genre must convey was omitted: the objectives of the research. In one of the productions, the author contextualizes, presents the methodology and some results of the research. The other also presents moves 1, 3 and 4, in addition to move 5, in which the conclusions of the research are presented.

Finally, it is relevant to mention that five of the texts already analyzed here presented an extra move, already proposed by Gil: the “organization”:

[Move 1] UAVs (Unmanned Aerial Vehicles) have been used in several applications, which include remote sensing, precision agriculture and atmospheric data monitoring. These aircraft developments have had major improvements taking advantage of the miniaturization of electronic components and modules such as GPS receivers, digital cameras, wireless communication equipment and sensors. Vertical Takeoff and Landing (VTOL) are aircrafts that can take off and land vertically, like helicopters.

However, the rotary-wing machines tend to suffer performance penalties. [Move 2] This paper proposes a different configuration of VTOL with fixed-wings and autonomous procedures. [Move 5] This VTOL has the advantages of traditional aircrafts and can takeoff and land in small areas. [Move Organization] Its design, flight modes and autopilot structure are described and a specific scenario of application is defined.

In Gil's research, this move appeared as a single move, whose goal was to present the content and the order of all the information the research article would portray. In the present research, however, as it can be seen in the example above, this move appeared in the texts together with other moves.

At the end of the genre adequacy analysis, it is possible to conclude that the majority of the students face difficulties in writing texts capable of portraying all the relevant information expected for the genre and that, thus, would not enable it to reach its communicative purposes. These difficulties suggest that an EAP course for this audience should contain tasks to the development of a genre awareness, specially to what social issues are concerned, so that the students may relate textual structure to contextual features, developing, then, a critical view of written academic communication.

Register adequacy analysis

The analysis of the adequacy of the students' texts to the academic register, based on Swales and Feak (1994), aimed, as mentioned in the previous section, to analyze the appropriateness of the register used in the texts in three levels: verbs, nouns, and other parts of the discourse.

To what verbs are concerned, Swales and Feak explain that graduate students should use simple verbs, of Latin origin, rather than phrasal verbs. The analysis of the abstracts showed only three cases of phrasal verbs usage, in three different texts.

Regarding the nouns, based on the exercises Swales and Feak propose in their book, it is possible to verify that there is a preference for impartial adjectives, which express little emotional positioning by the writer – such as *considerable*, instead of *good*, for example – and it is advisable that idioms, common to native speakers, but unknown by the non-native, be avoided. The analysis of the texts demonstrated that the majority of the students find difficulties in choosing the most appropriate nouns for formal English. Almost 90% of the abstracts had at least one inappropriate noun for the academic register, such as *trivial*, *payoff* and *tedious*. Besides, it is relevant to mention that 13, out of the 23 texts, had numerous occurrences.

Other linguistic issues may also be better adapted to the academic discourse. According to Swales and Feak (1994), avoiding verbal contractions and addressing the reader directly, using *you*; making the negative using only one word (*no* instead of *not any*, for example); limit the use of inconclusive words such as *etc.* and *so forth*, and the use of direct questions; and using adverbs within the verbal expression (between the auxiliary verb and the main verb) are strategies that may help the construction of a more formal text.

The analysis of the abstracts showed no occurrences of negation in two or more words, of inconclusive expressions, and of reader being directly addressed. However, it revealed five cases of adverbs used in the beginning and at the end

of sentences ([...]which synergizes *well*; *Currently*, robotic systems have been more and more required [...];*Usually*, such solutions employ virtual circuits [...];*Vertical Takeoff and Landing (VTOL)* are aircrafts that can take off and land *vertically*; [...] even when the environment changes *rapidly*), three cases of verbal contraction (*it's*, *don't*, *haven't*), and one case of direct question (*Given a very large moderate-to-high dimensionality dataset, how could one cluster its points?*).

English adequacy analysis

The focus of this last analysis of the text was spelling, syntax and grammar. The latter was concerned with verbal conjugation, preposition use and referrers. Data showed that, in general, it is possible to assure that the students' proficiency to write in English is appropriate to academic written communication.

The spelling analysis revealed only three words mistakenly written: *convolutional*, *semisupervised* and *maxime* instead of *convolution*, *semi supervised* and *maximize*.

The syntactic analysis found problems in four texts: (1) A relative pronoun was missing (*that*) in a coordinate clause: *We evaluated JMLOK and JET, tools (THAT) perform the approach steps automatically in Java with Java Modeling Language (JML) programs, in sample and real programs*; (2) the use of the adverb *also* after the verb, when it should have been used before it, and the use of an adverbial expression before the subject and the verb (*It is a typical*

syntactic construction, but alien to English): *Together with the benefits, come also challenges regarding coordination, communication and control*; (3) Use of the subordinate clause before the main clause (another atypical construction in written English): [...] *which, although considerably lower than the state-of-the-art for English, seems promising considering the available resources*; and (4) A comma is missing between a subordinate and the main clause: [...] *networks constructed from the original vector-based data sets (,) taking advantage of the network topology*.

Regarding verbal conjugation, two mistakes were identified, in which an “s” was added to verbs in the plural ([...] *are requiredS*; e [...] *random samples performS*). Two other mistakes were registered to what verbal conjugation is concerned. This time, it was related to the tense of the verb: The future tense was used to describe the methodology of the research (*Tests will be executed in the Stage [...]*; *Techniques of digital image processing and artificial intelligence will be used [...]*). Considering that research articles refer to researches that were already conducted and finished, any mention to the methodology must be done in the past tense.

The analysis of the use of preposition demonstrated a good command of the students, since rare cases were identified in less than half of the 23 texts. During this analysis, other grammatical issues were also investigated, and it was found two cases in which the indefinite article was mistakenly used (*an unique*; *an panorama*); three cases related to an appropriate use of linking words ((1) the use of *as*, when *since* should have been used: [...] *conformance between programs and their formal contract specifications, as verification by formal*

proofs is hard to scale; (2) the use of with to indicate the utilization of a certain instrument. The most adequate word in this case would be making use of: [...] which synergizes well with distance sensors; (3) the use of and to introduce a contraction, whereas but would be more adequate: This VTOL has the advantages of traditional aircrafts and can take off and land in small areas); two mistakes in the use of pronouns (Although it's adoption increases [...]; [...] achieving a very good tradeoff between the two); and just one mistake in the use of referrers (random samples performS as well as them).

CONCLUSIONS

The written activity presented in this article contributed substantially for a better comprehension of students' current knowledge on written academic communication, which enables relevant insights of what the content of an EAP course on writing for Computer Science graduate students might contain.

Data analysis showed that the students have a deep knowledge on English, an intermediate knowledge on academic register, and that most of the students have difficulties with the academic genre. Thus, recognizing the social features of written texts, i. e. the inseparability of text and context, and developing students' criticism must be the teaching goals of an EAP course on writing for the participants of this research. Therefore, the content of such course must not focus on grammar issues, which may be approached, when and if needed, during the assessment of students productions. The tasks must be designed around research article and abstract analysis and production, in order to approach social issues, such as discourse community configuration and their communicative

purposes for the genres, which imply textual decision, such as selecting and organizing relevant information, making the text clearer and more persuasive.

The knowledge of genre, especially based on sociorhetoric theory for genre analysis and teaching, has been proving to be an appropriate pedagogic tool for the development of students' academic literacy, once it enables approaching social, political and ideological issues of the context linked to linguistic, discursive and rhetoric features of texts. This same knowledge was fundamental for the execution of the present research. Enabling the present situation analysis, it was an appropriate methodological tool for the conduction of the NA process.

ACKNOWLEDGEMENTS

For supporting this work with discussions, encouragement and orientations, I would like to thank Professor Solange Aranha. I also thank Anna Patrícia China, Beatriz Gil, Laura Rampazzo, Mariana Valli, Queila Lopes and Rubia Mara Bragagnollo for reading and reviewing the text. Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) funded the research presented in this paper.

REFERENCES

ARANHA, S. A busca de modelos retóricos mais apropriados para o ensino da escrita acadêmica. **Revista do GEL**, Araraquara, v. 4, p. 97-114, 2007a.

_____. The development of a genre-based writing course for students in three

fields. **Simpósio Internacional de Estudos de Gêneros Textuais**, Tubarão, v. 4, p. 01-09, 2007b.

_____. The development of a genre-based writing course for graduate students in two fields. In: BAZERMAN, C.; BONINI, A; FIGUEIREDO, D. (Org.). **Genre in a changing world** X ed. Santa Barbara: The WAC Clearinghouse and Parlor Press, 2009, p. 465-482.

_____. Conscientizar para produzir: um relato sobre a implantação de um curso de redação acadêmica em língua inglesa. In: RAMOS, R. C. G. et al. (org.). **Experiências didáticas no ensino-aprendizagem de língua inglesa em contextos diversos**, v. 1, 1st ed. Campinas: Mercado das Letras, 2015, p. 167-186.

_____; VIEIRA, B. G. A. M. Conhecimento de língua, gênero e registro acadêmicos em foco: atividades na Análise de Necessidades de um curso de EAP para pós-graduandos em Ciência da Computação. In: Ferreira, M. M.; Stella, V. C. R. (Org.) **Redação Acadêmica: múltiplos olhares para a produção textual e o seu ensino**. São Paulo: Cortez, in press, possibly publish in 2017.

BAZERMAN, C.; BONINI, A; FIGUEIREDO, D. (org.). **Genre in a changing world**. X ed. Santa Barbara, CA: The WAC Clearinghouse and Parlor Press, 2009.

BENESCH, S. Needs Analysis and curriculum development in EAP: An example of a critical approach. *TESOL Quarterly*, v. 30, p. 723-738, 1996.

_____. **Critical English for academic purposes**. New Jersey: Blackwell Publishing Ltd, 2001.

BIASI-RODRIGUES, B. O gênero resumo: uma prática discursiva da comunidade acadêmica. In: BIASI-RODRIGUES, B.; ARAÚJO, J.C.; SOUZA, S. C. T. (Org.). **Gêneros textuais e comunidades discursivas: um diálogo com John Swales**, v. 1, 1ª. ed. Belo Horizonte: Autêntica, 2009, p. 49-75.

_____; HEMAIS, B.; ARAÚJO, J. C. Análise de gêneros na abordagem de Swales: princípios teóricos e metodológicos. In: BIASI-RODRIGUES, B.; ARAÚJO, J.C.; SOUZA, S. C. T. (Org.). **Gêneros textuais e comunidades discursivas: um diálogo com John Swales**, v. 1, 1ª. ed. Belo Horizonte: Autêntica, 2009, p. 16-40.

BHATIA, V. **Analysing Genre: Language Use in Professional Settings**. London: Longman, 1993.

DUSZAK, A. Academic discourse and intellectual styles. **Journal of Pragmatics**, v. 21, n. 3, p. 291-313, 1995.

FLOWERDEW, J.; PEACOCK, M. **Research perspectives on English for academic purposes**. Cambridge: Cambridge University Press, 2001.

GIL, B. **Comparação entre resumos e abstracts publicados em revistas brasileiras sobre tradução**. Relatório de Iniciação Científica não-publicado, Instituto de Biociências Letras e Ciências Exatas, Universidade Estadual Paulista Júlio de Mesquita Filho, São José do Rio Preto, Brasil, 2011.

GOMES, L. F. Uso da língua inglesa nos hotéis de Sorocaba e região: Um estudo das necessidades na situação-alvo. **The ESP**, v. 24, p. 17-34, 2003.

GRAVES, K. A framework of course development process. In: _____. **Teachers as course developers**. Cambridge: Cambridge University Press, 1996, p. 12-38.

HUTCHINSON, T.; WATERS, A. **English for specific purposes: a learning-centred approach**. Cambridge: Cambridge University Press, 1987.

HYLAND, K. Specificity revisited: how far should we go? **English for Specific Purposes**, v. 21, n. 4, p. 385-395, 2002.

_____. **Genre and second language writing**. Ann Arbor: The University of Michigan Press, 2004.

_____. **English for academic purposes:** an advanced resource book. New York: Routledge, 2006.

MOTTA-ROTH, D. Critical genre analysis: contributions to language teaching and research. **DELTA: Documentação de Estudos em Linguística Teórica e Aplicada**, v. 24, n. 2, p. 341-383, 2008.

_____. The role of context in academic text production and writing pedagogy. In: BAZERMAN, C.; BONINI, A; FIGUEIREDO, D. (org.). **Genre in a changing world**, X ed. Santa Barbara, CA: The WAC Clearinghouse and Parlor Press, 2009, p. 317-326.

_____. O ensino de produção textual com base em atividades sociais e gêneros textuais. **Linguagem em (Dis) curso**, v. 6, n. 3, p. 495-518, 2010.

RAMOS, R. C. G. Gêneros Textuais: uma proposta de aplicação em cursos de inglês para fins específicos. **The ESPECIALIST**, v. 25, n. 2, p. 107-129, 2004.

_____. ESP in Brazil: history, new trends and challenges. In: KRZANOWSKI, M. (Ed.). **ESP and EAP in developing and in least developing countries**. Canterbury: IATEFL, 2008, p. 68-83.

_____. Biodata: desenvolvimento da escrita acadêmica em um curso semipresencial de língua inglesa. In: DELL ISOLA, R. L. P.; DIAS, R. D. (org.). **Gêneros Textuais: teoria e prática de ensino em LE**, 1ª. ed. Campinas: Mercado de Letras, 2012a, p. 63-97.

_____. Compreensão Escrita em Língua Estrangeira. In: LIBERALI, F. C. (org.). **Inglês: a reflexão e a prática no ensino**, v. 2, 1ª. ed. São Paulo: Blucher, 2012b, p. 83-95.

SONGHORI, M. H. Introduction to needs analysis. **English for Specific Purposes World**, v. 7, n. 4, p. 1-25, 2008.

SWALES, J. M. **Genre Analysis: English in academic and research settings**. Cambridge: Cambridge University Press, 1990.

_____. Worlds of Genre: Metaphors of Genre. In: BAZERMAN, C.; BONINI, A.; FIGUEIREDO, D. (org) **Genre in a changing world**, X ed. Santa Barbara, CA: The WAC Clearinghouse and Parlor Press, 2009a, p. 291-313.

_____. Sobre modelos de análise do discurso. In: BIASI-RODRIGUES, B.; ARAÚJO, J. C.; SOUSA, S. C. T. (org) **Gêneros textuais e comunidades discursivas: um diálogo com John Swales**. Belo Horizonte: Autêntica, 2009b, p. 33-47.

_____.; FEAK, C. B. **Academic writing for graduate students**. Ann Arbor: The University of Michigan Press, 1994.

_____. **Abstracts and the writing of abstracts**. Michigan: University of Michigan Press, 2009.

VIEIRA, B. G. A. M.; ARANHA, S. A análise de necessidades na trajetória da elaboração de um curso de EAP para pós-graduandos em Ciência da Computação. **ESpecialist**, n. 36, v. 1, 2015, p. 49-72.