Graduate students would benefit from guidelines for preparing conference abstracts: A rhetorical moves analysis of French-language conference abstracts in language-related fields

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Abstract: Graduate student writing is finally receiving substantial scholarly attention, but little is known about the characteristics of the unstructured graduate student conference abstract (GSCA). This study seeks to characterize the rhetorical structures of GSCAs, as a basis for identifying potential writing support strategies. 107 French-language GSCAs from language-related fields (e.g., linguistics, second-language teaching) were coded using Hyland’s rhetorical moves (RMs) (Background-Aims-Methods-Results-Conclusion), yielding measures for RM frequency, RM sequencing, and RM recycling. We then use these measures to identify GSCAs that pattern together, via K-Means clustering. We find that the GSCAs studied pattern into three subtypes, two of which (72%) exhibit informational and/or structural shortcomings, most notably (1) missing RMs, (2) cognitively difficult RM sequences, and (3) unbalanced word-to-RM allotment. This study thus confirms that there is a need to implement strategies (e.g., conference submission guidelines) to better support graduate students in mastering this academic genre’s normative content and structure.

Keywords: conference submission abstract; rhetorical moves analysis; graduate student writing; genre mastery; writing skills

1 Introduction

1.1 Conference abstracts: An indispensable genre of academic writing

The conference abstract (CA) is a genre of academic writing whose mastery is critical for graduate students. Whether students’ trajectories ultimately lead to careers within or outside of academia, their graduate degree positions them as (more or less) fully legitimized members of the professional research community of practice (Lave, 1991; Lave & Wenger, 2001). The CA is, as Yakhontova (2002, p. 217) puts it, “a kind of a ‘pass’ to the world science market and research

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community that provides [...] various opportunities for professional contacts and communication”. That is, conferences are important sites of legitimate peripheral participation in the academic research community of practice (Lave & Wenger, 2001) that also provide access to even further career development, but that can only be accessed through a successful conference submission abstract. Additionally, the CA genre bears a resemblance to other professional genres both inside and outside academia (e.g., grant proposals, executive summaries, business reports), and the transferable skills its practice develops—e.g., maximising informativeness and clarity while restricting the length of a text, convincing different kinds of stakeholders of the significance of research work, etc.—are precisely the kinds of skills that prospective employers are likely to expect of graduate-school-trained candidates (i.e., newly-minted research professionals) on the job market.

1.2 What do we know about graduate student conference abstracts?

Despite the fact that graduate student writing has begun to receive substantial scholarly interest (see Ondrusek, 2012 for a review), the graduate student CA (GSCA) remains noticeably understudied. For example, our literature review found no Scopus-indexed studies on GSCAs as a textual genre. Existing studies of CAs (Kaplan et al., 1994; Berkenkotter & Huckin, 1997; Stein, 1997; Yakhontova, 2002; Halleck & Connor, 2006; Ren & Li, 2011; Cutting, 2012; Samar et al., 2014; Egbert & Plonsky, 2015; El-Dakhs, 2018; Yoon & Casal, 2020) have either focused on those prepared by professional academics or have not distinguished between CAs written by novice and more seasoned researchers (e.g., Egbert & Plonsky, 2015), while studies on similar types of text, such as Master’s or doctoral thesis abstracts (e.g., El-Dakhs, 2018; Ren & Li, 2011) cannot account for the specific exigences of the CA genre. For example, although both CAs and thesis abstracts summarize the research to be discussed, thesis abstracts are often longer texts, are typically associated with a slightly different community of practice (students on the cusp of obtaining, or who have recently obtained, their graduate degree), and are written about completed work, while CAs typically require making projections about work that is still in progress at time of writing (Yakhontova, 2002). Where thesis abstracts typically are not in themselves the subject of evaluation by reviewers (they stand as summaries of the true object of evaluation, the thesis that accompanies them), CAs are standalone objects tasked with both summarizing the research work for future readers and conference attendees and convincing reviewers to accept the (as yet unseen) presentation to the conference.

At this time, then, little can be said about graduate students’ CA-writing skills, other than anecdotal observations that at least some graduate students struggle with this key academic genre (Payant & Hardy, 2016; Sowell, 2019), in line with the broader observation that graduate students also exhibit difficulties with other important academic genres, such as literature reviews (Badenhorst, 2019). What is clear is that the lack of dedicated research into GSCAs makes the practice and its associated learning processes something of a black box. Put simply, assuming graduate students do indeed struggle with this genre, as has sometimes been claimed, we have yet to understand what struggles they may have and why, or where, how, and with whom to intervene to address the issue.

1.3 Study’s aims and contribution

As we have just seen, scholarly attention has been paid to CAs and to graduate student writing, but not specifically to conference abstracts written by graduate students. The present study

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2 Although, as mentioned above, Yakhontova’s (2002) object of study is not specifically graduate student CAs, this does not preclude their study from making valid and useful observations about the characteristics of the CA genre as a whole.
thus has three immediate aims. Firstly, it aims to assess GSCAs’ informativeness and structure against an idealized standard (as detailed in section 2.2.1). Secondly, this study aims not only to characterize the common rhetorical difficulties observed in GSCAs but also to identify subtypes of abstracts in the data using some of their respective rhetorical features. Lastly, based on the empirical evidence available, this study is intended to make the case for the dissemination of CA-writing strategies—in particular, conferences’ widespread adoption of explicit guidelines regarding CAs’ expected content and structure. In these ways, it is hoped that this study will not only contribute to a better understanding of the CA genre and the challenges it presents to graduate student writers, but that it will also have an immediate, practical benefit for graduate students in this aspect of their professional development.

1.4 Target audience

This study is conducted with an eye towards implementing strategies to help graduate students master the key academic genre that is the conference research abstract. The study’s results and recommendations will thus be of interest to academic advisors, graduate programme directors, graduate professional development trainers, conference organizers, writing support professionals, and teachers of Language for Academic Purposes, as well as graduate students themselves.

2 Methodology

For the purposes of this study, our investigation was limited to (1) unstructured abstracts (2) written in French, and (3) authored by graduate students (4) from language-related disciplines (e.g., linguistics, second-language teaching). We focused on unstructured rather than structured abstracts because (1) unstructured abstracts are overwhelmingly preferred in language-related disciplines in general, and in our corpus specifically (see Figure 1 in section 2.1.3), and (2) what graduate student writers do in the absence of explicit structural guidance provides a clearer picture of how they themselves understand and approach the genre. The decision to focus on GSCAs from language-related fields specifically is due primarily to the choice of conference from which the abstracts in our corpus were collected, discussed in more detail in section 2.1.1.

2.1 Corpus compilation

We compiled a corpus of CAs from the publicly available books of abstracts published online by the Journées de Linguistique (JDL). The corpus covers conference years 2011 to 2022 (excluding the years 2014, 2015, and 2019, for which no book of abstracts was available online) and comprises 199 GSCAs in total. Data processing and analysis are ongoing; the remainder of this paper reports on the 107 GSCAs that had been coded and analyzed at time of writing. In the following sections, we provide more detail on the JDL conference (2.1.1) and its abstract submission process (2.1.2), describe the selection criteria of the study’s corpus (2.1.3), and explain the coding process to which the corpus’ abstracts were subjected (section 2.2).

2.1.1 The conference

The JDL is an international language-oriented student research conference held annually at Université Laval (Quebec City, Canada) since 1987. Although less well-known outside of Quebec than, for example, McGill University, Université Laval is a major research and teaching institution with a full range of undergraduate and graduate degree programs, and is consistently ranked in the upper first quartile amongst Canadian universities for Arts and Humanities (Times Higher Education, 2022=16/97; QS World, 2022=17/97), and amongst the top 4.5% to 2.5% of all

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3 https://jdl.lli.ulaval.ca
universities in the world (Times Higher Education, 2022: 250-300; QS World, 2022: 433; ARWU, 2021: 301-400). The JDL thus takes place within an institutional culture of belonging to and participating in the international research community, and one that valorizes—and is well-resourced to support—research, knowledge dissemination, graduate study, and students’ professional development as researchers.

Another important characteristic of the JDL is that the organization of the conference and all associated tasks, including submissions and reviews, are entirely student-run. All roles and positions are staffed by graduate student volunteers; the only non-student involvement is a senior administrator who oversees financial and administrative matters and provides general guidance to the annual organizing committee. Reviewers are also student volunteers (faculty members are brought in only exceptionally), and they are recruited directly by the organizers on an ad-hoc basis. Legitimized by its 30-plus-year history within a well-regarded institution for research and graduate study, the JDL is thus recognized and promoted as a valuable “training ground”—or in other words, a site of legitimate peripheral participation—for all involved, and especially for the student researchers submitting and presenting their work, many for the first time in their careers.

We selected this conference for its particular character of being both “serious” (in terms of reputation and rigour) and accessible to—indeed, explicitly designed for—novice researchers, as outlined above. We also selected this conference because it offers a large amount of accessible data. The JDL makes its conference submission abstracts publicly available online, making it an ideal data source for what has historically been “one of those occluded academic genres, which rarely appear in print” (Swales, 1996, p. 46). Indeed, over a decade’s worth of submission abstracts are available (from 2011 to the present, with minor exceptions as outlined above), providing us with a corpus of CAs comparable in size to high-quality studies in the field of CA research (e.g., Cutting, 2012; Egbert & Plonsky, 2015; Yoon & Casal, 2020). Further, this data is both homogeneous enough to make comparisons feasible across the dataset, and yet varied enough to potentially capture a wide variety of practices, processes, problems, and insights. JDL abstracts all describe projects (1) of a roughly similar size and scope, (2) that share a focus on empirically-oriented, language-related research, and (3) which are being carried out by researchers at similar career stages. However, within these circumscribed limits, the JDL accepts a wide range of types and stages of research, produced by student researchers anywhere in the world. In fact, for the years covered by our study (2011-2022), only 28% of the published abstracts were produced by “local” students (i.e., students attending the hosting institution), while the remainder were produced by students attending other universities in the province of Quebec (32%), students attending Canadian universities outside of the province of Quebec (7.5%), students attending European universities (28%), students attending African universities (3.5%), and students attending American universities (1%).

2.1.2 JDL abstracts: Submission and review processes

Based on the information available in the JDL’s calls for submissions published during our study timeframe (2011-2022), GSCAs submitted to the JDL must respect three conditions to be considered for acceptance:

(1) The abstracts must be language-related and have an empirical dimension—although, “empirical” here is not used in its strictest sense, since, as previously mentioned, the conference accepts presentations of work at various stages, including research that is still at the conceptual or literature review stage, with no results and only prospective conclusions to report.
(2) The abstracts must respect the imposed word limit. The limit was 250 words between 2011 and 2017; this was expanded to 300 words beginning in 2018.

(3) Abstracts must be written in French (the dominant spoken language in Quebec, and the official language of both the province and of Université Laval), although abstracts written in other languages may be considered at the discretion of the conference organizers.

GSCAs submitted to the JDL that are deemed to respect these three conditions undergo double-blind peer-review. It should be noted that while no instructions regarding abstract content and structure were provided to aspiring conference presenters in any of the conference years studied, abstract reviewers have routinely been provided with a grid to evaluate GSCAs. Since 2016, this grid has explicitly directed reviewers to evaluate a submitting author’s use of five types of rhetorical moves (i.e., Background, Aims, Methods, Results, Conclusions; see Appendix A). There is thus a considerable gap between the conference’s publicly articulated expectations and the criteria which are actually used to assess abstract submissions. We return to this important point in the Discussion (see section 4.2).

2.1.3 Inclusion criteria

Each abstract that was published online in the JDL’s publicly available books of abstracts was screened to ensure it met the following inclusion criteria for our corpus:

(1) Unstructured (i.e., written as one or more block paragraphs, rather than divided into labelled subsections such as “Background”, “Aims”, “Methods”, etc.);

(2) Written in French;

(3) Associated with a typical 20-minute presentation;

(4) Credited exclusively to (one or more) graduate students;

(5) Codable using BAMRC-type rhetorical moves (see section 2.2.1 below);

(6) Not a duplicate of a previously submitted abstract (a notable occurrence in years 2020 and 2021 due to cancellations during the COVID-19 pandemic).

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4 We are aware of one abstract in the corpus that was written by an undergraduate student author. Although authors’ level of study is not part of the information recorded in the books of abstracts and obtaining this data for 100% of abstracts in the corpus will take some time, we do not expect, based on our prior knowledge of the JDL, that number to increase significantly as work continues. While there is no official rule excluding undergraduates from submitting an abstract to the conference, in practice, this is exceedingly rare, as the JDL is not targeted to, nor promoted within undergraduate programs. This further means that only those undergraduates whose mentor(s) have already identified in them some traits in common with early-stage graduate students (e.g., motivation to join the research community, interest in research, relatively advanced subject knowledge) would be encouraged to submit their work, or indeed have original research to submit in the first place. Given these factors, we consider that authors’ undergraduate versus graduate student status is not a meaningful exclusion or analysis criterion and have focused instead on the divide between graduate (or graduate-like) students and those who have successfully completed graduate study and are thus formally recognized members of the research professional community of practice (i.e., PhD-holder co-authors).

5 An abstract was deemed to be uncodeable if, in spite of meeting other criteria for inclusion, it belonged to an epistemic tradition whose norms were either explicitly different to, or otherwise not compatible with, BAMRC-type divisions of content. For example, some types of literary, historic, or philosophical analyses do not have (and were never intended to have) identifiable Methods and Results sections.
The document pipeline is depicted visually in Figure 1 below.

![Diagram of document pipeline]

Figure 1. Document inclusion/exclusion pipeline.

2.2 Coding

2.2.1 Coding scheme

The GSCAs were forced-choice coded at the level of the sentence and sentence fragment in MAXQDA 2022 (VERBI Software, 2022) using Hyland’s (2004) Rhetorical Moves (RM) scheme, slightly adapted for our purposes (see below). Hyland’s scheme proposes that research abstracts—including conference abstracts—are comprised of 5 obligatory rhetorical moves (see also Swales & Feak, 2009, p. 45): (1) Introduction (i.e., Background), in which topic significance, topic generalizations, key term definitions, and gap statements are presented; (2) Purpose (i.e., Aims), in which authors state the study’s objective(s); (3) Methods, in which the data and the procedures applied thereto are summarized; (4) Product(s) (i.e., Results), in which the study’s most compelling results are described, and (5) Conclusions, in which the study’s significance, limitations, and/or recommendations are presented. Hyland’s scheme was selected as being more complete than Swales’ (1990, p. 141) well-known CaRS scheme (see also Sánchez, 2018, p. 223), and because its moves represent a baseline of consensus in the field also found in, or taken up and built upon by, other existing schemes (e.g., Santos, 1996; Swales & Feak, 2009). An additional advantage to using Hyland’s scheme in our case is that its RMs (i.e., Background, Aims, Methods, Results, Conclusions) correspond closely to the content labels of the evaluation grid the JDL provides to abstract reviewers (see Appendix A).

We used Hyland’s scheme as a model of the target norms of the conference abstract genre. It should be noted that this model is not intended to represent what professional researchers actually produce in the genre, but rather the idealized understanding of the genre norms that is shared within the professional research community of practice. However, as we began applying the idealized model to our real-world data, we identified additional variations on these RMs that Hyland’s (2004) original scheme did not capture, and which we subsequently added to our working version of the model: under Background, identifying a research problem (even when no specific reference was made to a gap in the literature); under Aims, both research questions and hypotheses; and under Methods, both describing the theoretical framework adopted and describing procedures relative to the presentation itself (e.g., “In my presentation, I will first define key terms before describing the relevant context […]”). Although it may seem contradictory, at first blush, to allow the data to influence the (otherwise top-down) model to which said data will then be compared, it
is important to point out that these additions did not alter the structure or nature of the model itself. That is, the heart of the model, the norm to be reproduced remains the B-A-M-R-C content and structure identified by Hyland. What these additional content labels do is allow us (1) to capture frequently recurring content in our corpus that was relevant to a particular rhetorical intention, but which for whatever reason was not specifically itemized in Hyland’s model and (2) to explicitly relate that content to the model in a specific and regularized way that could be kept consistent across the entire corpus.

Table 1. The study’s working model: An adapted version of Hyland’s (2004) rhetorical moves.

<table>
<thead>
<tr>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Introduction (I)</td>
<td>Background (B)</td>
<td>1.1</td>
<td>Arguing for topic significance</td>
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<tr>
<td></td>
<td></td>
<td>1.2</td>
<td>Making topic generalizations</td>
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<tr>
<td></td>
<td></td>
<td>1.3</td>
<td>Defining the key term(s)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.4</td>
<td>Identifying gap</td>
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<td></td>
<td></td>
<td>*1.5</td>
<td>Identifying research problem</td>
</tr>
<tr>
<td>Purpose (P)</td>
<td>Aims (A)</td>
<td>2.1</td>
<td>Stating the research purpose</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*2.2</td>
<td>Stating the research question(s)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*2.3</td>
<td>Stating the research hypothesis or hypotheses</td>
</tr>
<tr>
<td>Method(s) (M)</td>
<td>Methods (M)</td>
<td>3.1</td>
<td>Describing participants/data source</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.2</td>
<td>Describing instrument(s)</td>
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<td></td>
<td></td>
<td>3.3</td>
<td>Describing procedure and context of study</td>
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<td></td>
<td></td>
<td>*3.4</td>
<td>Describing procedure of presentation</td>
</tr>
<tr>
<td>Product(s) (P)</td>
<td>Results (R)</td>
<td>4.1</td>
<td>Describing the main results</td>
</tr>
<tr>
<td>Conclusion(s) (C)</td>
<td>Conclusions (C)</td>
<td>5.1</td>
<td>Deducing conclusion</td>
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<tr>
<td></td>
<td></td>
<td>5.2</td>
<td>Evaluating the significance of the research</td>
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<td></td>
<td></td>
<td>5.3</td>
<td>Stating limitations</td>
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<tr>
<td></td>
<td></td>
<td>5.4</td>
<td>Presenting recommendation or implication</td>
</tr>
</tbody>
</table>

*: Data-driven step identified while coding the corpus (i.e., not mentioned by Hyland, 2004).
We also found it necessary to introduce an additional category of RM for tangential information that did not correspond to any of the obligatory or expected moves (e.g., “My presentation concerns theoretical linguistics”; “I won a prize for this research project”; “I am a doctoral student, and this is my thesis project.”) The exact nature and significance of this category are still under analysis and thus will not be discussed further here.

Finally, where Hyland (2004) presents each subtype of RM as a “step,” suggesting an ideal, fine-grained sequencing of information within the overall structure, we found that a less fine-grained approach was necessary, at the present stage, to begin to characterize GSCAs’ rhetorical structure. As such, we have so far ignored the “step” level of the schema and instead coded at the level of the overall RM, using the step descriptions instead as content labels, i.e., definitory criteria to identify which RM to apply to which kinds of content (see also Yoon & Casal, 2020). Table 1 above presents an overview of our working RM model and how it builds on Hyland’s (2004) scheme.

The coding process yielded three measures for each abstract: (1) the frequency of each code (i.e., of each type of RM); (2) word-to-move allotment, that is, how much of the abstract’s total word count is taken up by a given RM; and (3) the implicit rhetorical structure of the abstract as a whole, as represented by a complete list of its RMs in sequence (e.g., B-A-B-R-M). Analysis of this rhetorical sequencing generated a fourth measure: (4) move recycling, that is, whether the same move is used more than once in an abstract, and which moves (if any) are reused. Lastly, a fifth measure was generated by identifying paragraph breaks and coding for (5) alignment of paragraph breaks with rhetorical transitions, that is, whether the paragraph break coincided with the introduction of a new RM or whether it split a single RM.

2.2.2 The coders

The coding was performed by the first- and second-named authors. Both authors are fluent speakers and writers of academic French, having been trained in linguistics at the undergraduate and postgraduate level at a French-language university. Further, both authors are experienced in producing and evaluating academic writing: both have had original work accepted to multiple research conferences; both are first-named authors of peer-reviewed academic publications in their own right; both have taught and assessed academic writing at the university level; and both have experience as reviewers of French-language GSCAs.

A potential perceived conflict of interest that should be mentioned at this point is the fact that the study authors have both been associated with the JDL in the past. The first-named author evaluated abstracts for the JDL in 2021 and 2022, while the second-named author was a conference organizer for the JDL in 2016 and 2017 and an evaluator in 2020. The authors have no actual conflicts of interest to declare, however, as the work described here was conducted completely independently of any oversight, input or funding from representatives of the JDL. Instead, our familiarity with the workings of the JDL has provided us with important perspective on the conference organization, submission, and review processes relevant to an understanding of GSCAs.

2.2.3 Agreement

To date, 107 of the 199 abstracts (53.8%) have been annotated by at least one coder. Of these, 30.80% (n=33) have been double-blind-coded and all disagreements resolved via consensus.
Raw agreement before disagreement resolution stands at 60.38%. Although this score may appear low at first glance, it is actually markedly higher than chance (i.e., <16.7%).

Further, raw agreement as calculated by the annotation software is likely a conservative estimate, as areas of “imperfect agreement,” that is, partially and even substantially overlapping coded sequences, are nonetheless treated as disagreements. The software allows for a margin of error through a parameter that is meant to account for incomplete overlap. This parameter controls the percentage of the length of a given segment (in number of characters) that the other coder must also have selected with the same code in order for the segment to count as a coding agreement. By default, this margin is set to 90%—that is, coders’ highlighted selections may differ from each other by up to 10% of the total number of characters that one or the other of them selected. However, when conducting our comparisons, we found that even with the overlap margin set as low as 75%, a difference of a single character (e.g., an extra space, or extra punctuation mark) selected by one coder but not the other could still cause the software to register an otherwise identically coded segment as a disagreement. A more permissive measure that effectively utilized a margin of error would thus likely yield a higher raw agreement score.

It should also be noted that many of the coding disagreements reflect the often ambiguous and “messy” nature of the abstracts themselves, rather than indicating a problem with the coding scheme, its application by the coders, or with the coders’ respective judgments. For instance, in many cases it is genuinely difficult to interpret how a given sentence fragment functions or was intended to function in the text, or to decide how best to categorize content which could plausibly be attributed to more than one move. This is especially true when, as in many of the abstracts in our corpus, key structural and contextualization cues (e.g., what move to expect next in the sequence) are unreliable or absent. In these cases, the assignment of dissimilar codes actually reflects a similarity in judgment between coders, namely that the content was non-normative, ambiguous, and challenging to interpret. Furthermore, broad coding disagreements regarding the moves found in GSCAs are by no means unique to our study. By way of comparison, one of the few previous investigations into GSCAs abandoned its attempt to characterize GSCAs’ RMs because “moves [were] blurred, merged, missing, etc.” (Maricic & Pecorari, 2013, p. 14).

3 Results

The results are divided into two parts. In the first part (section 3.1), we present corpus-level descriptive statistics of move absence or presence (i.e., frequency; 3.1.1); move recycling (3.1.3); and correlations between rhetorical transitions (changing to a different move) and paragraph breaks (3.1.4). In the second part (section 3.2), we use K-Means clustering, with “unique moves” and “recycled moves” as parameters, to identify meaningful groupings of abstracts according to their different structural and informational characteristics (3.2.1). We also conduct non-parametric tests (3.2.2) to determine whether slightly adapted versions of the K-Means clusters differed significantly with regards to word-to-move allotment for each of the five types of RMs (i.e., Background, Aims, Methods, Results, Conclusion).

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6 Coders were selecting one out of six possible moves, putting the threshold of chance at 16.7% at most. However, coders were deciding not only which code to attribute but also where to begin and end the coded segment. Thus, the true chance threshold varies for each coded segment, but is actually lower than 16.7% in all cases.
3.1 Corpus-level descriptive statistics

3.1.1 Move frequency

Three RMs were found to occur in almost every abstract: (1) Background (94.9%), (2) Aims (93.2%), and (3) Methods (87.2%). Results-type moves occurred in just over half of the abstracts (50.4%), while Conclusions occurred in just over a third (35%).

We also looked at which moves graduate student authors tended to use to open and close their abstracts. A strong majority of abstracts (84%) opened with a Background-type move; the next most common opener was an Aims-type move (13%). Sequence-final moves were more varied: Conclusions (31.5%), Results (27.8%), Methods (20.4%), Aims (16.7%), and Background (3.7%) all appeared in that position. In other words, while Conclusion-type moves are the RM that most frequently occurs in sequence-final position, a full 69.5% of abstracts end with an RM other than a Conclusion.

3.1.2 Move sequencing

The types of moves used in the abstracts and the sequence in which they occurred proved to be highly variable, as shown in Figure 2 below. Amongst the 107 GSCAs, we identified a total of 57 different RM sequencing patterns. Only 13 of these patterns appeared in more than one abstract, while 44 occurred in only one abstract. In other words, 44 abstracts (41%) used completely unique RM sequences (e.g., B-A-B-A-R). The two most frequent rhetorical sequences were B-A-M (13.08%) and B-A-M-R (12.15%), while the normative or expected B-A-M-R-C sequence occurred in only 7 abstracts (6.5%).

![Figure 2. Frequency of the corpus’ most common rhetorical sequences.](image)

3.1.3 Move recycling

Over a third of the abstracts (37%) recycled at least one move. This figure increases to 52% in abstracts comprised of 4 or more total moves. The most frequently recycled moves were Aims (accounting for 42.9% of all recycled moves), Methods (28.6% of recycled moves), and Background (22.2% of recycled moves).
3.1.4 Paragraph breaks and rhetorical transitions

The average abstract contained 2.19 paragraphs (SD=1.28; min=1; max=6; medan=2). Close to half (44%) of the abstracts were comprised of a single paragraph. Paragraphing was found to be weakly predictive of the introduction of a new RM, that is to say, an RM that is not of the same type as the one that immediately precedes it. We found that a slight majority (59.85%) of paragraph breaks coincided with the introduction of a new RM, while 40.15% of paragraph breaks did not (i.e., they split an RM internally). Although split RMs occurred with a minority of paragraph breaks overall, they are widely distributed; the majority of abstracts which contained paragraph breaks (61.82%) also split at least one RM. Over half of the split RMs were Background moves (55%); other RMs occasionally split by a paragraph break were Aims (18.75% of split RMs), Methods (9.40% of split RMs), and Results (9.40% of split RMs).

3.2 Identifying meaningful subtypes of abstract

3.2.1 K-Means clustering

In the previous section, we identified notable trends that hold of the GSCAs at the corpus level. To identify subtypes of abstracts within the corpus, we conducted a K-Means clustering analysis. K-Means is a widely used statistical technique for identifying groups of similar datapoints. Two parameters were selected to form the clusters: (1) number of repeated moves and (2) number of unique moves. The results of this analysis are shown in Figure 3 below.

![K-means clustering](image)

Figure 3. K-Means clustering.

Number of unique moves can be understood to be a measure of informational richness, considering that the maximum informational richness of a CA (represented by the idealized genre norms described in section 2.2.1) uses all five move types, each providing a different type of
information about the study in question. Thus, for example, an abstract with a structure of B-A-M-R provides a greater variety of information about the study than one with a structure of B-A-M.

Number of repeated moves, on the other hand, can be understood to be a measure of structural organization, with more repeated moves being an indication that the author had greater difficulty in structuring the informational content to fit within the expected genre norms. Thus, for example, the structure B-A-B-M-A-R suggests greater structural difficulties within the abstract than does the structure B-A-M-R. Using the “elbow technique” (Kodinariya & Makwana, 2013) to determine the number of groups to be identified in the data, the K-Means algorithm identified the 3 clusters displayed in Figure 3.

Clusters 1 and 3, in particular, point to distinct types of abstracts. Cluster 1, which accounts for 31% of the 107 coded abstracts, is characterized by informational deficits (i.e., the absence of 2 or more required moves), but no structural difficulties (i.e., no move recycling). Cluster 3, on the other hand, accounting for 29% of the coded abstracts, is characterized by higher informational richness (i.e., 3 or more unique RMs), but also more structural difficulties (i.e., at least 1 recycled RM).

Cluster 2, however, is formed of a combination of (1) abstracts with “BAMRC-like” (normative or near-normative) structures, having four to five unique RMs and no recycled moves, and (2) abstracts with markedly non-normative structures, that is to say, abstracts having only three or four unique RMs, plus one recycled RM. The fact that this mathematically-formed cluster brings together abstracts with such disparate rhetorical characteristics suggests that further analysis is needed to identify additional characteristics which distinguish different types of abstracts in order to refine our clustering model. Word-to-move allotment, which we turn to next, may be one such parameter that can provide additional insight into the subtypes of abstract in our corpus.

3.2.2 Word-to-move allotment
For the purposes of identifying word-to-move allotment differences between subtypes of abstracts, we manually re-distributed the K-Means clusters identified above into three rhetorically-motivated groups:

- **Group 1**: abstracts with low informational richness and low structural difficulties. This group is identical to Cluster 1 from the K-Means analysis (red circles);
- **Group 2**: abstracts with high informational richness and high structural difficulties. This group contains all abstracts from Cluster 3 (blue triangles), as well as those abstracts from Cluster 2 (turquoise diamonds) that also showed structural difficulties (i.e., that recycled at least one move);
- **Group 3**: BAMRC-like abstracts (the remainder of Cluster 2; turquoise squares), that is to say, abstracts comprised of 4 or 5 non-recycled moves.

To illustrate concretely the kinds of abstracts that fall into each group, we have provided treemaps—visual representations of an abstract’s rhetorical sequence, and of the word count allotted to each move in that sequence—of selected abstracts from each group (see Appendix B). The main characteristics of these three groupings of abstracts are described statistically in Table 2 below.
Table 2. The characteristics of the three groups of abstracts.

<table>
<thead>
<tr>
<th></th>
<th>Group 1 (34%)</th>
<th>Group 2 (38%)</th>
<th>Group 3 (28%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>*SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Total moves</td>
<td>2.71</td>
<td>0.52</td>
<td>5.33</td>
</tr>
<tr>
<td>Unique moves</td>
<td>2.71</td>
<td>0.52</td>
<td>3.82</td>
</tr>
<tr>
<td>Recycled moves</td>
<td>0.00</td>
<td>0.00</td>
<td>1.51</td>
</tr>
<tr>
<td>Word-to-move: Background (%)</td>
<td>62.34</td>
<td>22.98</td>
<td>40.08</td>
</tr>
<tr>
<td>Word-to-move: Aims (%)</td>
<td>15.25</td>
<td>10.62</td>
<td>16.11</td>
</tr>
<tr>
<td>Word-to-move: Methods (%)</td>
<td>17.20</td>
<td>21.48</td>
<td>24.38</td>
</tr>
<tr>
<td>Word-to-move: Results (%)</td>
<td>4.41</td>
<td>8.46</td>
<td>9.60</td>
</tr>
<tr>
<td>Word-to-move: Conclusions (%)</td>
<td>0.80</td>
<td>2.96</td>
<td>4.71</td>
</tr>
</tbody>
</table>

*: Pearson’s standard deviation

As the data were not distributed normally according to Levene’s test of equality of variances, a series of asymptotic Kruskal-Wallis H tests were run using XLSTAT 2021 (v.2.2.1141; Addinsoft, 2021) to determine if there were significant differences in word-to-move allotment between the three clusters of abstracts with regards to each of the five RMs we coded for: Background, Aims, Methods, Results, and Conclusion. Differences in median word-to-move allotment scores were statistically significant (α=.05) between at least two groups for all five RMs, as follows: Background, χ²(2) = 20.493, p = .0001; Aims, χ²(2) = 6.929, p = .031; Methods, χ²(2) = 6.216, p = .045; Results, χ²(2) = 20.540, p = .0001; and Conclusions, χ²(2) = 5.991, p = .031.

Post-hoc multiple pairwise comparisons using the Steel-Dwass-Critchlow-Fligner procedure were then performed to identify which specific groups differed; the results are shown in the form of scattergrams in Figure 4 below. The post hoc analysis revealed statistically significant differences in word-to-move allotment between groups for only three RMs: Background, Results, and Conclusions. No groups actually differed significantly from each other with regards to word-to-move allotment for Aims or Methods RMs according to the post hoc tests.

With regards to Background moves, the post hoc analysis revealed statistically significant differences in word-to-move allotment between Group 1 (62.34%±22.98%) and Group 2 abstracts (40.08%±23.20%) (p = .0001), as well as between Group 1 and Group 3 abstracts (35.28%±18.57%) (p = .001), but not between Group 2 and Group 3 abstracts (p = .546). With regards to Results moves, Group 3 (16.66%±12.83%) differed significantly from both Group 1 (4.41%±8.46%) (p = .0001) and Group 2 (9.60%±13.57%) (p = .006), but Groups 1 and 2 did not differ significantly (p = .119). Lastly, with regards to Conclusion moves, Group 1 (0.80%±2.96%) differed significantly from Groups 2 (4.41%±8.46%) (p = .0001) and 3 (7.21%±9.01%) (p = .016), but Groups 2 and 3 did not differ significantly from each other (p = .379).
*: significant at level $\alpha=0.05$

Figure 4. Scattergrams of word-to-move allotment for each RM across the 3 groups of abstracts.
4. Discussion

4.1 Main findings

The results detailed in section 3 show that, overall, the GSCAs we evaluated deviate from the idealized “expert” norms of the conference abstract genre, as conceptualized by our adaptation of Hyland’s (2004) five-RM sequence of Background, Aims, Methods, Results, and Conclusions.7

Table 3. Summary of how the GSCAs in our corpus deviate from idealized genre norms

<table>
<thead>
<tr>
<th>Deviations in informational content</th>
<th>Deviations in rhetorical structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Evidence</td>
</tr>
<tr>
<td>Omission of required RMs</td>
<td>Abstracts missing a Results move: 49.6%</td>
</tr>
<tr>
<td></td>
<td>Abstracts missing a Conclusions move: 65%</td>
</tr>
<tr>
<td>Disproportionate word-to-move allotment</td>
<td>Background moves take up an average 62% (±22.98%) of Group 1 abstracts</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Move splitting</td>
<td>40% of all paragraph breaks in the corpus do not correspond with the transition to a new RM.</td>
</tr>
</tbody>
</table>

We found that the GSCAs in our corpus depart from expected genre norms along two dimensions. Namely, we found (1) widespread difficulties with informational content, as evidenced by the frequent omission of required RMs and frequent, disproportionate (sometimes extremely so) word-to-move allotment; and (2) widespread difficulties with rhetorical structure, as evidenced by the high number of abstracts with unusual rhetorical sequences, frequent move

7 In this sense, our corpus’ GSCAs are not so different from at least some of the CAs written by professional academics, which do not necessarily adhere to the normative structure “across or even within disciplines” (Cavalieri, 2014, p. 173). However, further research is needed to determine what such similarities really mean: whether non-normative GSCAs pattern the same as non-normative professional CAs—that is, whether there is a difference between “skilled” and “unskilled” non-normativity; whether the “idealized” norms are unattainable even for professionals and should be revised; or whether a shift in community norms may be underway. Until more is known in this regard, we have elected to continue using an idealized BAMRC model as the best currently available representation of community norms for the rhetorical structure of CAs.

8 “Non-normative” is used here in its strictest sense of deviating from the idealized norms of our model; further analysis is needed to account for varying degrees of non-normativity within this category (e.g., a B-A-M-C abstract is closer to a normative structure than a B-A-M-A-M abstract).
recycling, and the frequent use of paragraph breaks within a single RM (i.e., RM splitting), rather than as a means to mark the transition between RMs (see also Salager-Meyer, 1990). Table 3 above reproduces the most salient evidence or examples supporting these findings.

Importantly, however, we found that these informational and structural difficulties do not hold equally of all GSCAs. In other words, we found that the GSCAs in our corpus could be organized into subtypes based on the particular constellation of difficulties they exhibited. With only some slight manual regrouping of clusters identified via K-Means, we identified three subtypes or groups of abstracts based on their rhetorical characteristics: (1) abstracts with low informational content (few unique moves) and low structural difficulties (no recycled moves); (2) abstracts with high informational content (three or more unique moves) and high structural difficulties (one or more recycled moves); and (3) abstracts with high informational content and no structural difficulties (i.e., normative or near-normative abstracts).

We also showed that these are not simply ad-hoc groupings based on descriptive traits, as they do not differ only in terms of the parameters used to define them (unique versus recycled moves); the groups also relate differently to other important measures of normativity, specifically word-to-move allotment. Group 1 abstracts can be differentiated by the fact that they assign significantly more words to Background (62.34%±22.98%) and significantly fewer to Conclusions than do Group 2 or Group 3 abstracts. Group 2 and Group 3 abstracts, meanwhile, are especially well-differentiated according to the percentage of words allotted to Results, with Group 3 having more substantial Results moves than Group 2. We believe that bearing in mind both corpus-level and abstract subtype-level difficulties will be important when tailoring strategies to better support graduate students in mastering this academic genre’s expected content and structure; as shown in this study, CA-writing difficulties do not vary independently.

4.2 Implications

These results suggest that the unstructured conference abstract poses a significant challenge to the average graduate student researcher. The majority of GSCAs we analyzed do not meet the (idealized) professional standards for the genre, in many cases by quite a wide margin. Importantly, though, some abstracts did. That is, for reasons as yet unknown, a small number of graduate student authors were able to produce normative or near-normative CAs. These findings raise, amongst other things, concerns about possible systemic inequalities in access to, and support for, appropriate professional development for graduate students. Considering the crucial importance of the conference abstract genre, as we outlined in the introduction, it is all the more urgent to identify effective strategies to help close the gap between what graduate students are expected to produce and what they currently can produce.

The CA-writing difficulties brought to light by our analysis highlight, moreover, potential repercussions for graduate students’ careers. Many of the GSCAs examined do not have a logical rhetorical structure, let alone a predictable one. As we ourselves experienced while coding the abstracts, this can make it difficult for readers to identify and extract relevant information (for a discussion on this point, see Zhang & Liu, 2011); it also likely increases the cognitive demands on readers and may negatively impact their impressions of the research being presented, or of the author’s professional skills. Recall that “reader,” for a CA, is a category that includes not only prospective conference attendees, but also reviewers, supervisors, employers, and fellow scholars, and it becomes apparent that a poorly perceived conference abstract has the potential to dramatically limit a student’s future opportunities.
Based on our work thus far, and our own experiences as graduate students, peer mentors, GSCA evaluators, and writing support professionals, we can recommend the following general strategies to begin to address these observed difficulties:

1. Explicit training in the conference abstract genre should be provided for graduate students, in the context of graduate writing classes, methodology courses, and skill-building workshops;
2. Both professional and peer mentors should impress upon graduate students the importance of seeking out and incorporating constructive feedback regarding their conference abstracts’ structure and contents;
3. Explicit structural and informational guidance should be provided to graduate students when they apply to conferences.

Recommendation (3) is especially noteworthy because it is simple and can be implemented quickly and at low cost by (student) conference organizers. It is not necessary to adopt the use of structured abstracts or to impose rigid conformity on researchers. Nor does it require the actors in question to hold decision-making power at the institutional level, or to have the time and resources to create courses and run workshops. All that is needed is for conference organizers to adopt what has been up until now a marginal practice: to clearly state in their call for papers what RMs they expect abstracts to cover, and which RMs, if any, can be omitted and under what circumstances (e.g., Results, in the case of promissory abstracts). Organizers may further wish to mention expected or acceptable move sequences and approximate move proportions, to aid authors in gauging the structure, scope, and balance of their abstract. These explanations should ideally mirror the expectations that will be articulated to reviewers. Optionally, conference organizers could even provide a chart similar to our Table 1, illustrating the correspondences between different textual content and different types of rhetorical moves, so that novices can meaningfully connect these expectations to their own work.

These actions would promote transparency in the peer review process, especially if the instructions for submitting authors mirror the criteria that will be used by reviewers to evaluate the submitted abstract. As noted in section 2.1.2, there is a considerable gap between the JDL’s expectations as articulated to submitting graduate student authors versus those provided to reviewers: the JDL does not provide guidance regarding abstract content and structure but asks reviewers to evaluate submissions using content-based and structural criteria (see the evaluation grid provided to reviewers in Appendix A). In this sense, we suspect that the JDL is no different from many other conferences that also utilize this type of inherited evaluation system; however, this discrepancy is nonetheless problematic, considering that a full 72% of GSCAs submitted to the JDL in the past decade show difficulties with either content and/or structure. In other words, graduate students’ abstract-writing efforts are, in many cases, being evaluated using genre-specific criteria with which they do not (yet) appear to be familiar. Through the simple act of providing a few additional paragraphs of information, conference organizers would not only make (student) authors’ work easier (and quite possibly reviewers’ as well; see Beyea & Nicoll, 1998), they would also be contributing directly and tangibly to improving students’ career trajectories by reducing or eliminating disadvantageous knowledge gaps regarding implicit CA norms.

4.3 Limitations and future work

In addition to the current findings and their implications, the study also has empirical limitations that must be acknowledged. First, being a preliminary and coarse-grained analysis,
there are a number of potentially influential variables that we have not yet investigated, but which we plan to consider in future work, including:

1. Author’s level of study: do MA students’ GSCAs contain more or different types of difficulties than those of PhD students?
2. Cohort: do certain conference years have unusually strong or unusually weak abstracts?
3. Field of study: do students in STEM-like subfields, such as phonetics or psycholinguistics, generally produce BAMRC-type abstracts more often than students in less quantitative fields such as translation or semantics?
4. Institutional affiliation: do Quebec-based students generally produce stronger or weaker abstracts than Europe-based or Africa-based students? Are students from particular institutional or academic cultures more or less proficient at producing BAMRC-type abstracts?
5. Project status: do promissory-type abstracts, describing proposed or in-progress research projects, differ from abstracts for completed projects? Do CAs describing (portions of) thesis or dissertation research projects have different characteristics than abstracts based on smaller projects subjected to less scrutiny?
6. Number of authors: do abstracts with one author have different rhetorical characteristics than abstracts with two or more authors?

Secondly, until we can expand our investigation to include GSCAs from conferences other than the JDL, it cannot currently be known whether this study’s conclusions hold only of the JDL’s GSCAs, or whether the observed difficulties are indicative of a broader issue amongst graduate students more generally.

Third, it must be acknowledged that the present study has only analyzed abstracts which were accepted to the conference. This is a necessary consequence of beginning our investigation with publicly available data, namely the published book of abstracts for each conference year studied. This means that the data in our corpus are skewed towards the stronger abstracts (i.e., those that successfully passed peer review), while the weakest (i.e., rejected) abstracts are not represented. This also makes it impossible, for the time being, to assess what rhetorical characteristics may be correlated to an abstract’s success at passing peer review. Indeed, within an already-occluded genre, rejected abstracts are even further obscured, as they do not appear anywhere in publicly available materials, and organizers may not retain archival copies as they move forward with the conference. In future studies, we hope to work with conference organizers and/or student authors obtain access to rejected abstracts, in order to address some of these gaps.

Finally, it should be noted that the coarse-grained nature of the analyses reported here tends to obscure the under-informativeness of certain abstracts. As an example, sentences such as “I will present my results”, on the one hand, and “multinomial analysis controlling for three confounds identified X as a significant predictor of Y”, on the other hand, would both be coded as Results moves, but the latter is both more normative and more informative than the former. Thus, it is highly likely that the measures of genre-related writing difficulties that we have reported here

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9 We thank the WALLY editors for raising this point in their comments on an earlier version of this article.
actually underestimate the variety and the prevalence of abstract-writing difficulties among graduate students.

5. Conclusion

To recap, this study is the first to conduct a rhetorical moves (RM) analysis of a substantial quantity of graduate student conference abstracts (GSCAs). Using an expanded version of Hyland’s (2004) five rhetorical moves (Background, Aims, Methods, Results, and Conclusions) we conducted content analysis, via manual qualitative coding, of a sample of 107 unstructured GSCAs from the Journées de Linguistique (JDL), an international student research conference in language-related disciplines, held annually at Université Laval in Quebec City, Canada.

Strengths of this study include the use of a relatively large sample of French-language GSCAs, double-blind coding, well-qualified coders, the data-driven adaptation of an appropriate and well-defined methodological framework (i.e., Hyland’s rhetorical moves), and the use of a robust computer-assisted qualitative data analysis software (i.e., MAXQDA 2022). Additionally, it is worth noting that this study is, to our knowledge, the first rhetorical move analysis study to have identified subtypes of abstracts that are distinguishable along one or more parameters; the identification of different subtypes of abstracts draws attention to the fact that GSCAs do not all have the same informational and structural difficulties. In turn, this finding highlights the need to address a wide variety of abstract-writing issues.

While recognizing that the current results must be interpreted considering certain caveats (see section 4.4), our analyses show that, while a subset of GSCAs do adhere to normative standards for the genre, the majority fall short of this idealized standard in terms of informational content, rhetorical structure, or both. This raises concerns around equality of access to professional development that should be explored in future research, and it indicates a critical need both for more research in this area and for practical strategies that can be implemented easily, here and now, to better support graduate students as (novice) professionals. One immediate, low-cost means of providing graduate students with substantial support would be to provide conference submission guidelines that make explicit the genre’s expectations (or at least that conference’s interpretation thereof).

Acknowledgements

The authors would like to thank the organizing members of JDL 2022 for the encouraging interest they have expressed in this on-going study, as well as the editors of WALLY, whose careful attention and helpful feedback have helped to improve the present version of this paper. The authors are also grateful for the constructive feedback and comments received on this ongoing work from attendees at the following conferences: University of Alabama Annual Language Conference 2022 (Tuscaloosa, Alabama), York University Graduate Symposium in Linguistics and Applied Linguistics 2022 (Toronto, Canada), Contemporary Crossroads: Studies in English Applied Linguistics 2022 (Budapest, Hungary), and Diversity and Social Justice in Language Learning 2022 (London, United Kingdom).

References


Appendix A: The JDL evaluation grid for reviewers of submitted abstracts

Grille d’évaluation des propositions de communication – JDL 2022

<table>
<thead>
<tr>
<th>Critères</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>Ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>Présentation de la problématique</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Présentation des objectifs</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Présentation du cadre théorique, de la littérature</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Présentation de la méthodologie de recherche</td>
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<tr>
<td>Présentation des résultats</td>
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<td></td>
<td></td>
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<tr>
<td>Présentation des perspectives</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Note globale :
- □ communication à rejeter
- □ communication à conserver
- □ communication à conserver absolument

Free translation of French text:
Grid for the evaluation of proposed presentations – JDL 2022

Legend:
0 = missing / insufficient
1 = acceptable
2 = excellent
Ø = normally absent (example: no results yet to present); does not apply

Criteria:
- Presentation of the research problem
- Presentation of objectives
- Presentation of the theoretical framework, of the relevant literature
- Presentation of research methodology
- Presentation of results
- Presentation of perspectives (i.e., limitations, contribution, avenues for future work)

Global recommendation:
- This submission should be rejected
- This submission should be accepted
- This submission should be accepted by all means.
Appendix B: Treemaps of selected GSCAs

Figure 5. Treemaps of selected abstracts from Group 1.

Figure 6. Treemaps of selected abstracts from Group 2.

Figure 7. Treemaps of selected abstracts from Group 3.

Legend:
- Background (B) (turquoise)
- Aims (A) (green)
- Methods (M) (yellow)
- Results (R) (orange)
- Conclusions (C) (pink)