The Scientific Abstract as a Discursive Genre in Peruvian Scientific Journals of Education

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Abstract

The aim of the present study is to analyze the structure of 117 abstracts extracted from four Peruvian scientific journals of education. The analysis of the study units was carried out following the "rhetorical moves" model proposed by Swales and Feak. A documentary study was carried out. The results show a greater presence of movements 2, 3 and 4 and a lesser presence of movements 1 and 5, which evidences a greater interest in highlighting the purpose, method and results in the summaries on education. Regarding the order followed, the presence of structures of 4 and 3 movements is greater, although the established order is not always followed (M1, M2, M3, M4, M5). It is concluded that the results show certain regularities compared to similar studies.

Keywords

Introduction

Research and publication of results are considered to be different activities. However, both activities are part of the same process that culminates when the results are made known to the scientific society.

The areas where these results are communicated are very diverse: they range from academic or scientific events—such as congresses, symposia, colloquia—to the preparation of specific documents, detailed under certain regulations, but contemplating the highest quality standards such as those required for the publication of scientific articles.

According to Blanco (2019) the aspects of research, the writing of a scientific article and therefore its respective publication make up a kind of triad that is a product of the advancement of scientific-academic work; which due to their nature usually show a series of challenges and thus become a problem in academic circles and communities, which have been forced to generate responses aimed at strengthening the skills of discourse in academia. Writing academic articles is not an easy task, especially if the audience is multidisciplinary; therefore, authors must decide on the content to be included, and which details are not essential enough to be omitted, and all this on an adequate rhetorical structure (Tessuto, 2015).

An effective structure helps an article convey its core message. The optimal structure depends on the information to be conveyed and the audience's expectations. According to Thelwall (2019) in today's increasingly interdisciplinary world, structural rules can be confusing for authors, reviewers, and the scientific article-consuming public. For his part, Day (2005) emphasized that a scientific article is materialized in order to be published; this would explain the need that many researchers have to publish, in order to increase their production and, with it, their prestige in the field of research. Swales (1990) argued that those who write a scientific article seek to have their discourse accepted by the scientific community in which they aspire to work.

As stated by Binswanger (2015), due to the demands of the academic systems nowadays, professors are forced to generate several papers and thus publish as much as possible to the reason that they are evaluated and ranked according to the number of their publications and citations in scientific journals. In conclusion, we can affirm that the publication of a scientific article is of a relevance equivalent to the research itself. Although there are a number of techniques or strategies for writing research articles, writers with little or no expertise in research writing will face different problems in
writing their articles, including textual organization, the relationship of the text to the audience, ways of making knowledge claims, and referencing published literature (Wannaruk & Amnuai, 2016).

The genre analysis of abstract writing has attracted the attention of scholars in recent years; thus, the rhetorical organization of research article abstracts has been the subject of several studies (Ahmed, 2015). For his part, Blanco (2019) assumed, from a structural perspective, that genres can be understood as a communicative base with certain complexity, which can be located at various levels or ranges, such as situational (linked to the interactive sphere), communicative context (external structure), or internal structure (involves verbal and nonverbal characters), adding that the orientations of their study are broad and include discursive semiotics, new rhetoric, applied or systemic linguistics, among others. According to Wannaruk & Amnuai (2016), the rhetorical organization of research articles has attracted a great deal of attention in the study of genres, and the focus of move-based analysis is on textual function.

In this research we will study the scientific article genre and we are particularly interested in analyzing its components and how they fulfill certain communicative functions within the genre. Researchers face the challenge of not only showing their research findings, but also presenting them in a sequence that allows them to make known their relevant aspects and how their research contributes to the academic community in a logical and coherent manner (Swales & Feak, 2009). Within this spectrum, the abstract is one of the components of the research article that, due to its concise structure of concentrating in a few words the essence of the total content of the article, is considered a genre in itself (Swales, 1990).

The above is evidence of the role of summarization in scientific communities, which is why, not long ago, this aspect received special and deserved attention from specialists in the field of linguistics and discourse analysis. With the increasing amount of scientific information available on the web, it would be impossible to read it all. It is here that the abstract presents itself as a means of making available in a much more versatile way the relevant and available information of a given research work. In addition to the rhetorical purpose of the abstract, we sought to determine the type of abstract used by Peruvian scientific journals in education, in order to determine whether they fall into any of the above classifications.
Method

The present work is framed within the quantitative, non-experimental and descriptive approach. In accordance with the objectives set out, it seeks to evaluate, in a cross-sectional manner, the compilation of information for a period of two years on scientific publications in the field of education. The sample consisted of 117 abstracts of Peruvian journals specialized in the area of education written in Spanish published in 2018 and 2019. The journals studied are described below (Table 1).

Table 1 Characteristics of Peruvian scientific education journals

<table>
<thead>
<tr>
<th>Journal</th>
<th>Institution</th>
<th>2018</th>
<th>2019</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eduser</td>
<td>Universidad Cesar Vallejo</td>
<td>7</td>
<td>17</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td><a href="http://revistas.ucv.edu.pe/index.php/index">http://revistas.ucv.edu.pe/index.php/index</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apuntes Universitarios</td>
<td>Universidad Peruana Unión</td>
<td>18</td>
<td>21</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td><a href="https://apuntesuniversitarios.upeu.edu.pe/index.php/revapuntes">https://apuntesuniversitarios.upeu.edu.pe/index.php/revapuntes</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educación</td>
<td>Pontificia Universidad Católica del Perú</td>
<td>19</td>
<td>19</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td><a href="http://revistas.pucp.edu.pe/index.php/educacion/index">http://revistas.pucp.edu.pe/index.php/educacion/index</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revista Digital de Investigación en Docencia Superior (RIDU)</td>
<td>Universidad Peruana de Ciencias Aplicadas</td>
<td>7</td>
<td>9</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td><a href="https://revistas.upc.edu.pe/index.php/docencia/index">https://revistas.upc.edu.pe/index.php/docencia/index</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>117</td>
</tr>
</tbody>
</table>

Data Analysis

Swales and Feak’s (2009) proposal: *move and step* is used to analyze and classify the rhetorical moves present in the abstracts of the selected journals (Table 2).

Table 2 Classification of rhetorical moves proposed by Swales and Feak (2009)

<table>
<thead>
<tr>
<th>Moves</th>
<th>Typical tags</th>
<th>Questions involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement 1</td>
<td>background/introduction/situation</td>
<td>What do we know about the subject?</td>
</tr>
<tr>
<td>Movement 2</td>
<td>present research/purpose</td>
<td>What is the study about?</td>
</tr>
<tr>
<td>Movement 3</td>
<td>methods/materials/subjects/procedures</td>
<td>How was it made?</td>
</tr>
<tr>
<td>Movement 4</td>
<td>results/findings</td>
<td>What was discovered?</td>
</tr>
<tr>
<td>Movement 5</td>
<td>discussion/conclusion/implication/applications</td>
<td>do the findings mean?</td>
</tr>
</tbody>
</table>

Instrument

Documentary analysis was used as an instrument and record and analysis cards were prepared using Microsoft Excel *software*. After obtaining the data, it was analyzed using descriptive statistics. Also, for explanatory purposes, a qualitative analysis of the
components of the summary of some extracted cases will be carried out in order to present and exemplify the rhetorical movements.

**Results**

**Qualitative Analysis**

The components of the summaries are presented in order to determine the communicative intention of each one of them. Swales (1990) calls *rhetorical strategy* the way in which the author or authors specify their intention in a specific section of the text. Following Swales and Freak's model, summaries are structured in five movements. Each of the sections presents particular rhetorical features that help identify a specific purpose. The rhetorical moves followed by the authors are presented below.

**Movement 1: What do we know about the subject?**

The purpose of this movement is to contextualize the topic. The author makes this movement to highlight the importance of the subject and the interest of studying it.

1. Distributed leadership is a transactional approach to institutional management that has evolved to the conception of interactive management between principal and faculty, with no current evidence reported of its functionality in vulnerable contexts (Aldoradin-Rodríguez, Flores-Castañeda & Holguin-Alvarez, 2019).
2. In the learning society, one of the challenges for teachers in training is the need to define and develop a set of professional competencies in their initial training, essential in their entry into the labor market (González and Rebollo, 2019).

**Movement 2: What is the study about?**

The purpose of this movement is to specify the objective of the study, its scope and goals. It is recognized because it is presented with phrases such as "The objective of the present study is", "The purpose of the study", "The study seeks...", etc.

3. The objective of the present research is to determine the influence of Montessori sensory materials on the development of the notion of seriation in five-year-old infants from an educational institution in Comas, 2016 (Navarro and Larrea, 2018).
4. This research seeks to interpret the reality of social imaginaries regarding male teachers in early childhood education in the district of Comas in the city of Lima, Peru, in 2018 (Zapata and Cruz, 2019).
There are cases in which this movement is integrated with movement 3:

5. In this context, an exploratory cross-sectional study was proposed, the objective of which was to investigate the inclusion of computer science applied to translation in translation degrees [sic] offered in public universities in Argentina, in specific technology subjects, and in other curricular and extracurricular spaces (Bianchini, 2018).

6. In that sense, the aim of the present article was to describe the experiences of initiation that have occurred in the first years of teaching of a group of five teachers at the university, with whom semi-structured interviews were held (Rodríguez-Pech, & Alamilla-Morejón, 2018).

Movement 3: How was it done?

The purpose of this movement is to explicitly present the method followed (type, design, level, population, data collection instrument):

7. Through the Codipes questionnaire, a total of 53 professors of Social and Legal Sciences at the University of Málaga, from the 2016/2017 academic year, were evaluated (Fernández-Márquez, Leiva-Olivencia & López-Meneses, 2018).

8. The hypothetical deductive method was used, based on a quantitative approach of non-experimental and cross-sectional design. A Questionnaire was applied to 122 workers (Faya Salas et al., 2018).

Move 4: What was discovered?

This movement presents the results obtained in the study. It usually appears with phrases such as "The results obtained...", "Among the main results obtained...", etc.

9. The results showed that students, at the beginning of their pedagogical studies, manifest a low interest and understanding of politics and, at the same time, a very low trust in public institutions, such as the government, congress, police, courts of justice and political parties (Muñoz Labraña et al., 2018).

10. Statistically significant differences were found between the experimental and control groups, in favor of the experimental group. In addition, an effect size of 4.56 was found, categorized as very large. In the case of academic performance, no statistically significant differences were found. However, the effect size was 0.60, considered moderate (Gonzales López, 2019).
Movement 5: What do the findings mean?

This section presents and discusses the conclusions of the study. In some cases, the implications of the study and its applications are usually included. It is recognized because it includes expressions such as "it is concluded" or "it is suggested".

11. In conclusion, the digital badges program encouraged participation in virtual academic activities; however, the results regarding academic performance are not entirely clear, so it is suggested to conduct research in courses of different area and with a broader sample (Gonzales López, 2019).

12. The study conducted showed that from the design, modeling, control and execution of the proposed process based on BPM SaaS managed to contribute to the management of competitive projects (Saboya Ríos et al., 2018).

However, this movement usually includes recommendations or proposed solutions derived from the results found:

13. In short, attention should be directed to join efforts in the Spanish state in the initial training of primary education teachers, so that they can acquire a set of competencies that will facilitate, in addition to their labor incursion, their continuous improvement and updating in the exercise of their professional, social and personal development (Gonzáles and Rebollo, 2018).

Although the abstract can be considered as a small text and, therefore, secondary, it has a main function as a subsidiary text of a larger text such as the scientific article, a complex and more elaborate text.

Quantitative Analysis

The results of the analysis of the movements found in the abstracts of Peruvian education journals are presented, providing an objective overview of the structure, organization and predominant functions in the units studied.

Abstract Length and Variation

Table 3 refers to the length of the abstracts analyzed. It can be observed that the standard deviation is high in 3 of the 4 journals analyzed, which shows a high variability in the length of the abstracts. This is the case of the journals Apuntes universitarios and Eduser.
However, the average number of words per abstract is within the required standards of between 150 to 250 words (APA, 2020; Day, 2005; Sanchez, 2016).

Table 3 Number of words, words per abstract, and standard deviation

<table>
<thead>
<tr>
<th>Journal</th>
<th>No. of words</th>
<th>Words</th>
<th>D. E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>3872,2</td>
<td>159,4</td>
<td>45,20</td>
</tr>
<tr>
<td>Eduser</td>
<td>6124</td>
<td>157,03</td>
<td>45,25</td>
</tr>
<tr>
<td>Apuntes universitarios</td>
<td>5029</td>
<td>132,34</td>
<td>15,09</td>
</tr>
<tr>
<td>Educación</td>
<td>2854,4</td>
<td>176,44</td>
<td>31,39</td>
</tr>
</tbody>
</table>

Rhetorical Moves

In Table 4 we can see that not all movements are performed with the same frequency. Ideally, the summaries should include all five movements in order to be sufficiently informative. However, as can be seen, movements 2, 3, 4 and 5 have the greatest presence.

Table 4 Moves present in the analyzed articles

<table>
<thead>
<tr>
<th>Movements</th>
<th>Fi</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>32</td>
<td>10,96</td>
</tr>
<tr>
<td>M2</td>
<td>80</td>
<td>27,40</td>
</tr>
<tr>
<td>M3</td>
<td>67</td>
<td>23,29</td>
</tr>
<tr>
<td>M4</td>
<td>45</td>
<td>15,07</td>
</tr>
<tr>
<td>M5</td>
<td>68</td>
<td>23,29</td>
</tr>
<tr>
<td>Total</td>
<td>73</td>
<td>100,00</td>
</tr>
</tbody>
</table>

A comparative analysis of the rhetorical moves (see Table 5) shows that the journals Apuntes Universitarios and Educación are the ones that present the greatest regularity in the realization of moves. It can also be observed that movement 1 is the one that is performed less frequently in the summaries of the journals analyzed and movement 5 the one that presents the highest frequency. This result highlights the authors' intention to account for the substantial elements of the study represented in M2, M3, M4 and M5 respectively.

Table 5 Comparison of movements by journal

<table>
<thead>
<tr>
<th></th>
<th>Apuntes Universitarios</th>
<th>Educación</th>
<th>Eduser</th>
<th>Revista Digital (RIDU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>fi</td>
<td>11,7%</td>
<td>14,1%</td>
<td>7,5%</td>
<td>10,5%</td>
</tr>
<tr>
<td>M1</td>
<td>9</td>
<td>11</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>M2</td>
<td>22</td>
<td>28,6%</td>
<td>19</td>
<td>24,4%</td>
</tr>
<tr>
<td>M3</td>
<td>17</td>
<td>22,1%</td>
<td>17</td>
<td>21,8%</td>
</tr>
<tr>
<td>M4</td>
<td>14</td>
<td>18,2%</td>
<td>15</td>
<td>19,2%</td>
</tr>
<tr>
<td>M5</td>
<td>15</td>
<td>19,5%</td>
<td>16</td>
<td>20,5%</td>
</tr>
<tr>
<td>Total</td>
<td>77</td>
<td>100,0%</td>
<td>80</td>
<td>100,0%</td>
</tr>
</tbody>
</table>
Conclusion

In the journals analyzed, similarities can be found in the way of organizing abstracts with those of other countries such as Chile (Quintanilla, 2016) and differences with contexts such as Venezuela and Colombia (Blanco, 2019). In this sense, the present study provides relevant data on a Peruvian reality. This fact can mark a line of study that would allow analyzing the rhetorical components that stand out in a summary. These data would help in the teaching of scientific article writing at a higher level, as well as to improve the processes of dissemination and consultation of articles by means of more informative and less structured summaries. The study showed that there are irregularities in the length of the abstracts, which is expressed in the high standard deviation. However, on average, the abstracts comply with the number of words required for this type of genre, which is an indicator that such length would be related to the number of rhetorical movements present in the structure of the abstracts. Regarding the movements, M1 (10.96%) is the least present in the rhetorical structure of the summaries studied, which shows the scarce interest of the authors in contextualizing or presenting the background of the study. It is followed by M4 (15.07%) with less presence despite the fact that this movement allows closing the research process. The movements with the highest presence are M2 (27.49%), M3 (23) and M5 (23.29%). These percentages of presence highlight the interest in elaborating summaries that reflect the fundamental structure of the research article, which is IMR &C (D), as well as being related to the presence and reiteration of movements in the recurrent structure of the summaries. The qualitative analysis of the movements helps in the search and finding of morphosyntactic and lexical similarities in the way the movements are written. These linguistic features help in the identification of each one of them, eliminating the possible risk of error.

Nowadays the intensity of information flow is growing rapidly, so the problem of representing information in a format that is easy to read and analyze becomes relevant. According to Amnuai (2019) genre structures of research articles can be used to develop teaching materials and become a reference source for genre-related writing classes; since, with a thorough understanding of grammatical and discursive features budding writers will be able to generate their summaries effectively.

In the process of text production different code systems interact and discursive change occurs through new combinations in order to implement the author's communicative strategies (Dmitrichenкова & Dolzhich, 2017). Science communication is the mainstay of the growth of science. Contributions and trends in studies should be supported with quality products that provide sufficient information to be consulted and cited. This is the
only way to guarantee its contribution and transcendence for the disciplinary field to which it belongs. Therefore, studies such as the present one are located in the line of scientific communication as a validated and accepted process which should be integrated as an academic and professional activity, in order to strengthen discursive skills that allow, according to Quintanilla (2016), not only a more rigorous work, but also tends to unify processes and mechanisms within the academic-scientific communities.

References


