

**Rhetorical Organization and Linguistic Realizations of Moves in  
English Research Article Abstracts**

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### Abstract

Research article abstracts are the most effective means of introducing the scope of the complete article. Taking abstracts as the analytical framework, the study identifies the move structures and their linguistic realizations, including verb tenses, stance markers and lexical richness. The contrastive analysis is based on a corpus of 80 abstracts published in North-American and Ecuadorian journals in the disciplines of education, sociology, electronics and agronomy. The corpora were subjected to move analysis performed manually by the human analyst and to software-driven analysis with the complete lexical tutor (Cobb, 2006). The results show that English-written texts do not follow a hierarchical five-move structure (Hyland 2000) but a three-move conventional schema, whose functions are to present the purpose (M2), describe the methodology (M3) and discuss the research findings (M4). Present and hedges were the most frequent categories across disciplines. It was also found complex lexical variation and high lexical density. It is hoped that these results raise linguistic and pedagogic implications for novice writers, particularly non-native English speakers benefit from writing instructions to construct publishable English abstracts in terms of content and rhetorical structure.

**Key words:** conventional, discourse communities, rhetoric organization and writing style.

### Resumen

Los resúmenes de artículos de investigación son el medio más efectivo para introducir el alcance del artículo completo. Tomando los resúmenes como marco analítico, el estudio identifica las estructuras de movimiento y sus realizaciones lingüísticas, incluidos los tiempos verbales, los marcadores de posición y la riqueza léxica. El análisis contrastivo se basa en un corpus de 80 resúmenes publicados en revistas norteamericanas y ecuatorianas en las disciplinas de educación, sociología, electrónica y agronomía. Los corpus fueron sometidos a un análisis de movimientos realizado manualmente por el investigador y por el software automático: complete lexical tutor (Cobb, 2006). Los resultados muestran que los textos escritos en inglés no siguen una estructura jerárquica de cinco movimientos (Hyland 2000) sino un esquema convencional de tres movimientos, cuyas funciones son presentar el propósito (M2), describir la metodología (M3) y discutir los hallazgos de la investigación (M4). El tiempo presente y coberturas (hedges) fueron las categorías más frecuentes en todas las disciplinas. También se encontró variación léxica compleja y alta densidad léxica. Se espera que estos resultados proporcionen implicaciones lingüísticas y pedagógicas en los escritores no experimentados, particularmente en los hablantes no nativos de inglés, a fin de que se reciban instrucciones de escritura académica para construir resúmenes que sean publicables, en términos de contenido y estructura retórica.

**Palabras clave:** convencional, comunidades de discurso, organización retórica y estilo de escritura.

## Introduction

The way in which research article (RA) abstracts share their research findings in the scientific discourse community has increasingly become the foci of great interest across researchers and scholars from different disciplines (e.g. Lorés, 2004; Pho, 2008; Kafes, 2012; Doró, 2013; Çakir, 2015; Can et al. 2016). This is, in great part, because abstracts of scientific papers, after titles, are the most read section, thereby the information content must provide readers concrete and clear summary of the paper. That is, RA abstracts are the most effective means of introducing the scope of the research, in effect, abstracts persuade readers to go into further details, by skimming or scanning the complete article. Then, the rhetorical and linguistic elements need to be carefully selected to construct accurate RA abstracts (Ren and Li, 2011); otherwise, the texts may have difficulties to draw the attention to the academic community. In fact, the accuracy of the abstract, in terms of content and rhetorical structure, determines if the article is worth reading or not. Indeed, the readability of the abstract may categorize the whole article as a text that contains good or vague information. It is because abstracts are read more receptively by scholarly and non-scholarly readers (Salager-Meyer 1992).

Abstracts then are so important in the scientific discourse community. They constitute the first *mini-texts* that academics will encounter freely available online (Huckin, 2001). Therefore, the way of how writers use the language to construct the discourse across disciplines and languages has led to paying extensive attention to the rhetorical structures and their linguistic realizations. Rhetorical structures so called moves – *patterns, schema, steps*–, are essential elements to analyze the organization of scholarly texts (Hyland and Tse, 2005). Indeed, much research has been done in that field within academia (e.g. Hyland, 2000, 2004, Can et al. 2016; Martín- Martín, 2003, 2005; Lorés-Sanz, 2016). Since much of the research is being produced by native and non-native English speakers, and published in different English-medium context, academics recognize the importance of examining how to organize the content of the abstract is (e.g. Kosasih, 2018; Lee, 2017; Fan and Song 2017; Fallatah, 2016). Although abstracts significantly vary in terms of content and rhetorical structure across disciplines, they must present faithful and accurate information either in descriptive or informative texts. This is, in large part, because the text readability facilitates the interaction between writers and outsiders and transmit their discourse community practices, which reproduce discursive conventions. Candlin and Hyland (2014) stated that “writing cannot be regarded as simply words on a page, any more than we can regard it as the creation of isolated minds” (p.3), in the sense that writing is much more than the generation of text-linguistic products. It implies the appropriate lexical and grammatical choices, rhetorical structures and organizational techniques for an effective construction and interpretation of the text.

In the globalized world of scientific communication and information explosion (Swales and Feak 2009), a great number of the RAs summarizes the gist of their studies, by *highlighting the purpose, methodology, result and conclusion* (Hyland, 2000: 64). Nonetheless, due to different linguistic conventions and cultural backgrounds, the content and rhetorical structure are not-hierarchical across disciplines (Zemach and Rumisek, 2005). This is because, writers do not simply report their findings or express ideas in some neutral way, but they employ rhetorical resources to share meanings and values of a particular discourse community (Hyland 2000). Hierarchical and non-hierarchical patterns have been identified, which allow

researchers to grasp how those texts disseminate the research findings to hook a local or international audience. However, despite the impressive results of academic investigations on abstracts, research studies addressing the genre analysis of English RA abstracts are infrequent in Ecuador. Taking abstracts as the analytical framework, the aim of this study is to identify the move structures and their linguistic realizations, including verb tenses, stance markers and lexical richness that categorize English abstracts published in North-American and Ecuadorian journals in the disciplines of education, sociology, electronics and agronomy.

### Theoretical background

The role of the RA abstracts in the scientific world as a means of disseminating the research findings and creation of new knowledge is undeniable. Most scholars and researchers, either experts or beginners, make a first contact with a RA by skimming the abstract, and then decide depending on the clarity with which the author presents the study, whether to continue or not reading the article. Then, studying the way in which the academic discourse of the genre abstracts is configured, allows researchers and practitioners to know the conventions that have been established or practiced in different discursive communities. According to Sanchez (2012), the lack of knowledge of those conventions (e.g. rhetorical and textual organization) is one of the factors that arise difficulties in academic writing. Such writing difficulty is so evident in RA abstracts that sometimes are not very close to those established conventions, in terms of content and rhetorical structure. The knowledge of those conventions and discursive practices is essential to produce English abstracts exactly in wording and understandable to a wide audience.

The emergence of RA abstracts in scholarly publications has been the threshold for many investigations. Much research has been carried out on the way that abstracts of scientific papers introduce their studies across disciplines (e.g. Çakir, 2015; Can, et al 2016; Hyland 2000; Kafes 2012; Lorés 2004; Lee, 2017). Researchers from different lingua-cultural backgrounds have put emphasis on the rhetorical organization (e.g. Hyland 2004; Kosasik, 2018; Fallatah, 2016; Pho, 2008; Martín-Martín, 2003) and the linguistic realizations of abstracts (e.g. Ebrahimi & Motland, 2017; Hu & Cao 2011; Işık-Taş, 2018; Perales & Swales, 2011). Research findings, for instance, have reported differences in the forms of wording and rhetorical structure of abstracts written in different disciplines, languages and genres. Despite the content of an abstract may vary across disciplines, journals, cultures and conventions, its main communicative function is to introduce accurately the essence of the article.

Research studies have increasingly attempted to show how academic writers intervene in their texts and build solidarity with their readers (Hyland and Tse 2005:124). Contrastive analyses of rhetorical structure of written texts have found that abstracts followed a three-move conventional pattern such as *purposes, methods and results* when aiming the gist of the paper (Kafes, 2015; Çakır, 2015; Hyland, 2000; Pho, 2008; Lorés, 2014; Al-khaswneh, 2017; Kosasih, 2018). In addition to the three-move structure, there have been studies that revealed four stable moves across disciplines and languages. For example, Martín-Martín (2003) and Loutayf (2017) noticed that Spanish RA abstracts in experimental science followed the IMRD model: *introductions, methods, results, and discussions*. In the same way, Behnam and Golpour (2014), Suntara and Usaha (2013) discovered that *purpose, method, result and conclusion* were the frequent moves in English

abstracts in applied linguistics. This result is in line with those of Kafes (2012), Suntara and Usaha (2013), Samraj (2002) and Dos Santos (1996) where the introduction section was optional. Lau (2004), on the contrary, notices that abstracts written by expert authors showed the frequent occurrence of a five-move pattern: *purpose, method, result and conclusion* compared to the abstracts written by PhD authors. This rhetorical divergence, according to Hyland (2000) may be connected to different social practices and institutional ideologies within academic communities.

Taking the impact of the above descriptive framework, academics have turned their interest to analyzing the linguistic realizations of that rhetorical choice. For example, Huang (2018) found that English abstracts written in the subfields of automatic control differed from those of structure and dynamic, and heat and flow in the realization of verb tenses and the use of first-person pronouns. Tseng (2011) revealed that the present perfect was adopted in almost over half percentage of the abstracts. Ghasempour & Farnia (2017) and Kosasih (2018), meanwhile, found that present tense and past tense frequently occurred in the entire corpora. Pho (2008) similarly reports that present tense and present perfect were the most frequent categories across the abstracts; however, their occurrence varied according to the English-medium journal. In the same way, Ghasempour & Farnia (2017), Kosasih (2018) and Lorés (2014) observed different lexical and grammatical choices in English and Spanish abstracts. Thus, textual nouns as subjects occurred in both languages while the passive form 'se', which is used to refer to the process without mentioning the agent was used in Spanish texts. The studies above showed paths at analyzing the ways that writers project themselves into their texts to signal their attitude towards the propositional content to interact with their audience (Hyland and Tse, 2004).

Research suggests that the context of publication directly or indirectly influences authors' preferences in setting up their authorial identity, interactional devices, lexical and grammatical choice. Hu and Cao (2011), investigating the stance markers in RA abstracts published in English and Chinese-medium journals, found that hedges were most frequent in English texts and boosters in Chinese ones. They conclude that writers whose English is not the first language sometimes show preference for using boosters when presenting their claims and arguments. Alonso (2014), on the other hand, revealed that evidential lexical items were common in law and medicine abstracts written in English and Spanish, while epistemic modals were used in the English law and medicine texts. Similarly, Liu and Huang (2017) discovered that Chinese authors employed hedges with the similar interactional function as English writers do, and that boosters were barely used by native English speakers. In addition, Divasson and Leon (2006) indicated that boosters tend to be used frequently by non-native academic authors. In the same way, Loutayf (2017) found that most abstracts written by Argentinean authors adopt the impersonal style (70%) when communicating the content of the entire article. In this way, Argentinean writers hold a secondary role to avoid negative criticism within the academy. This stylistic variation in Swales and Feak's (2012) point of view is affected by the genre, discipline and discourse community practices, which somehow are closely connected to the audience, purpose, organization, and style. That is, the preferred choice could be "determined by conventions transferred from writers' L1 and a disclosure of their own cultural identity" (Loutayf, 2017:30).

Another trend in the study of RA is the analysis of the lexical richness between abstracts of native and non-native speakers of English (e.g. Djiwandono, 2016; Laufer & Nation, 1995; Šišková, 2012). Much research has measured the *lexical variation* –LV, *lexical density* –LD and *lexical sophistication* –LS of different texts (Read, 2000). Laufer and Nation (1995), assessing the lexical richness of English texts, found out that the use of the first and second thousand words, and sophisticated words significantly varied across texts. It is assumed that richer vocabulary, in terms of varied and advanced words is the result of better language knowledge (e.g. Breeze, 2008; Djiwandono, 2016; Lemmouh, 2008; Šišková, 2012). Djiwandono (2016), while comparing the lexical richness in essays written by students and lectures observed that lectures' LV and the numbers of academic words were higher than the students. Likewise, Šišková, (2012) met stronger instance of LV and advanced words in non-native English speakers. Foster and Tavakoli (2009) when analyzing the LV of non-native task performance, found that learners of English in London produced texts with more LV than that of the learners in Tehran, and that their LV is far closer to those of the native ones. Such lexical differences may be attributed to different lingua-cultural conventions among writers (Connor, 2004).

The preferred rhetorical, lexical and grammatical choice above discussed allow researchers to explore how the English abstracts of non-native speakers are similar or different than native speakers of English. However, despite the impressive research outcomes on the rhetorical organization of abstracts and their linguistic realizations across disciplines and languages, little research or almost nothing has been done in Ecuador. Taking abstracts as the corpus for the analysis, the aim of this study is to examine the rhetorical organization and their linguistic realizations, including verb tenses, stance markers and lexical richness of English abstracts written in the fields of humanities –education, sociology– and natural science –electronics, agronomy– published in North-American and Ecuadorian journals. In order to establish the rhetorical organization and linguistic realization of abstracts written in English, the present study aims at answering the following research questions:

1. Do English RA abstracts written in the fields of humanities and science follow a hierarchical five-move structure suggested by Hyland (2000)?
2. What are the linguistic features that characterize English abstracts written in the disciplines of education, sociology, electronics and agronomy?
3. Do English RA abstracts published in North-American journals show higher lexical richness than those of Ecuadorian ones written in the fields of humanities and science?

### Method

The rhetorical organization of RA abstracts were analyzed by using Hyland's (2000) hierarchical five-move model: *introduction, purpose, method, product and conclusion*. Due to the fact that abstracts are condensed texts, and a move pattern may occur within one or more sentences (e.g.: Lau, 2004; Pho, 2008), linguistic signals such as *in a recent work...*, *the present study explores...*, *the purpose of this investigation is...*, *the article analyzes data from...*, *the data for this research...*, *the findings reveal...*, *the results of the*

*study suggest...*, *the article concludes...*, were used as referent to differentiate one move from another. The study adopted a top-down and bottom-up approach to recognize moves and set up the boundaries between moves (Ackland, 2009). With the top-down approach, the analysis focused on the content of the RA abstracts while with the bottom-up approach, it looked for linguistic signals to categorize the moves. Following Hyland (2003), a move was considered as obligatory if it occurred in at least 60% of the articles, less than 60% was categorized as optional. Thus, the most frequent moves were taken as conventional patterns whilst the infrequent ones as non-obligatory.

Following Ai and Lu (2013), the unit analysis of the linguistic realizations of moves are sentences and clauses. Such combination is because a sentence may have more than one clause, for instance, independent and dependent clauses that are joined by a coordinating or subordinating conjunction. Therefore, in order to identify the linguistic realizations of abstracts, a move structure (sentence) was analyzed into clauses, as in the example 1 (below), to identify what sentence structures frequently occur in English RA abstracts published in Ecuadorian and North-American journals. The linguistic analysis focused on a) verb tense, namely present-past tense, perfect tense and passive voice, and b) stance markers, as hedges and boosters.

Example 1: The results of the fixed effects models indicate significant associations, though they are generally modest in magnitude. (M5) [edu – NS]: Complex, present.

Clause 1: The results of the fixed effects models indicate significant associations,

Clause 2: though they are generally modest in magnitude.

The researcher, namely human coder, supports the reliability of the coding of the procedures above discussed, which consist of a double round of coding with an interval in between. Once each move was clearly set down and differentiated from one to another, the coding was compared to see to what extent the move structure and its linguistic realizations match to establish the results. The *complete lextutor vocabprofile* (Cobb 2006) examined the lexical richness of English RA abstracts written in the fields of humanities and science, published in both journals. It analyzed the percentage of content words compared the function words –*lexical density*, the diversity of words used in the text –*lexical variation*, and the percentage of low-frequency words and off-list words –*lexical sophistication*.

## Corpus

The corpus of the study consists of 80 RA abstracts published in North-American and Ecuadorian peer-reviewed online/print journals, written in the disciplines of education, sociology, electronics and agronomy, and published between the periods of 2010-2017. The selection criteria used in choosing the journals were their indexation. Both Ecuadorian and North-American journals are indexed either in a regional or international medium context. Ecuadorian journals, for instance, are indexed in *latindex* (regional cooperative online information system for scholarly journals from Latin America, the Caribbean, Spain and Portugal), as well as in *elsevier*, *dialnet*, *GoogleScholar*, *REDIB*, and *e-rivist@s*. These journals are hosted by Ecuadorian Universities. North-American journals are indexed in *ERIC*, *EBSCOhost*, *elsevier*, *American International Congress on the Didactics of the English Language Journal*. ISSN 2550-7036.

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*statistical association, SciSearch, SCOPUS, Applied Science and Technology, and GoogleScholar.* Unlike North-American journals, Ecuadorian ones are mixed journals, which devote special sections and space for the aforementioned disciplines.

The data set include 40 English article abstracts published in North-American journals, as *American Journal of Education (AJE), Journal of Teacher Education (JTE), American Journal of Sociology (AJS), Sociological Perspectives, Journal of Electronic Materials (JEM), Journal of Electronic Packaging (JEP), Journal of Agricultural and Food Chemistry (JAFC) and Journal of Agricultural Science (JAS)*. Each discipline such as sociology, education, electronics and agronomy encompass 10 abstracts. Similarly, the Ecuadorian corpus consists of 40 English article abstracts and their original Spanish version (40) published in Ecuador in the following journals: *INNOVA Research Journal, Alteridad, Axioma, UTCiencia, Revista Tecnológica ESPOL, Amazonica, Analitika, Procesos, Perfiles, Avances, Ingenius and La Granja*. All four disciplines, namely sociology, education, electronics and agronomy, comprise of 10 abstracts each.

### Results and Discussion

The cross-linguistic and disciplinary analysis of the English RA abstracts written in the disciplines of education, sociology, electronics and agronomy, and published in Ecuadorian and North-American journals revealed variation in the rhetorical organizations and their linguistic realizations. Results showed that most of the English abstracts in the fields of humanities and science, published in both journals do not follow a hierarchical five-move structure, but indicated the occurrence of three stable moves, which functions are to present the *purpose* (M2), the *method* (M3), and the *product* (M4) in which the frequency of occurrence is above 94%. This finding corroborates the results of the studies of Dos Santos (1996), Pho (2008), Behnam & Golpour (2014), Çakır (2015) and Tovar (2017) who concluded that *purposes* (M2), *methods* (M3) and *products* (M4) are obligatory in almost all RA abstracts. Unlike conclusions, *introductions* (M1) were commonly used in RA abstracts across the four disciplines in native and non-native English written texts. That is to say, *conclusions* (M5) were the least frequent moves throughout the whole corpora with the 34% of occurrence. The results of this study match those of Lau, (2004); Kafes, (2012); Fallatah, (2016) where the occurrence of *introductions* and *conclusions* were infrequent in all the RA abstracts. Nonetheless, M1 reported to be frequently used in agronomy texts written by native and non-native authors while in the electronic ones, it only appeared in native texts.

Table 1. Cross-disciplinary analysis of native (NET) and no-native English-written texts (NNET)



Moves	HUMANITIES				SCIENCE			
	Education		Sociology		Electronics		Agronomy	
	NNET	NET	NNET	NET	NNET	NET	NNET	NET
<b>1. Introduction</b>	60%	40%	50%	90%	40%	60%	70%	80%
<b>2. Purpose</b>	100%	90%	95%	100%	90%	100%	80%	95%
<b>3. Method</b>	100%	100%	65%	100%	90%	100%	100%	95%
<b>4. Product/Results</b>	80%	100%	60%	100%	90%	80%	100%	100%
<b>5. Conclusion</b>	10%	40%	30%	50%	10%	30%	60%	70%

Table 1 (above) shows that M2-M3-M4 with 94%, 93%, and 87% of occurrence, respectively, was found as a conventional pattern in all native and non-native English-written texts. However, when comparing the four disciplines between fields, non-native and native English agronomy texts written in the field of science followed the conventional five-move model suggested by Hyland (2000), including M1-M2-M3-M4-M5. Although the percentage of occurrence is not significantly higher in the M1 and M5 compared to the native English-written texts (NET), the findings of this study sets out that the agronomy abstracts follows the five-move pattern more closely than the others, but in the gain, non-native English-written texts (NNET) have the lowest figure for agronomy ones. The rhetorical divergence in agronomy abstracts might be that non-native authors conventionally devote more space to the purpose, method and product moves when shaping the rhetorical organization of abstracts. The move variation across the four disciplines might be that authors belongs to different discourse community practices and discourse conventions of the language (Connor, 2004). For example, while NET in the discipline of sociology had a four-move pattern, NNET shows a three-move schema. A possible explanation for such rhetorical differences is because native and non-native English speakers experience different linguistic and cultural backgrounds into their disciplinary communities.

As can be seen from the comparative analyses across disciplines within humanities and science (see table 1 above), M2 in the field of humanities was the first highest frequent move (100%; 90%; 95%) whereas in science; it is the third most frequent one with 100%; 90%; 80% of occurrence. Moreover, in the field of science, M3 and M4 are the most frequent moves with 100%; 95% and 100%; 90% and respectively whilst in humanities, M3 was the second most frequent move (100%;100%;65%) and M4, the third one with 100%; 80% and 60%. M1 is sometimes used in RA abstracts, which occurs in 40%; 50%; 60%; 70%; 80% and 90% in native and non-native English-written texts. The reason for the dissimilarity of the move frequency across disciplines might be explained by the influence of the context of publication, which, in some extent, is different in terms of lingua-cultural and discourse conventions they are addressing. The results above discussed are in line with those of Martín-Martín, (2003); Fallatah, (2016), where RA abstracts reported to follow conventional patterns, but with different frequency of occurrence. It is inferred then that the move frequency and move order is not stable since they vary according to the discipline and context of publication. That is, while a move is categorized as obligatory in some disciplines, in the others, it is taken as optional.

Table 2. Linguistic features in English abstracts

Ling. Features	English sub-corpora				
	NET	%	NNET	%	Occur
Present tense	90	25	77	21	167
Past tense	37	10	38	10	75
Perfect tense	11	3	9	2	20
Passive voice	33	9	37	10	70
Hedges	53	15	53	14	106
Boosters	41	11	47	13	88
<b>TOTAL</b>	<b>364</b>		<b>372</b>		

Regarding the linguistic realizations of native and non-native English-written text, significant differences are reported throughout the two sub-corpora. Thus, results in figure 1 above show that present tenses and hedges were the most frequent linguistic categories used in NET and NNET when *introducing* the scope of the research papers. Present tense therefore predominantly occurred in M1 and M2, and sometimes in M5. In effect, it occurred 167 times, 32% across native and non-native English texts, respectively. Hedges, boosters, past tenses and passive structures with the 20%, 17%, 14% and 13% of occurrence in most RA abstracts reported to be the second, third, fourth and fifth highest linguistic features written in the two English-medium contexts. Perfect tense was the least frequent linguistic category among abstracts in native and non-native English-written texts. The linguistic variation may be attributed to the different lexical and grammatical choices derived from the two different lingua-cultural conventions.

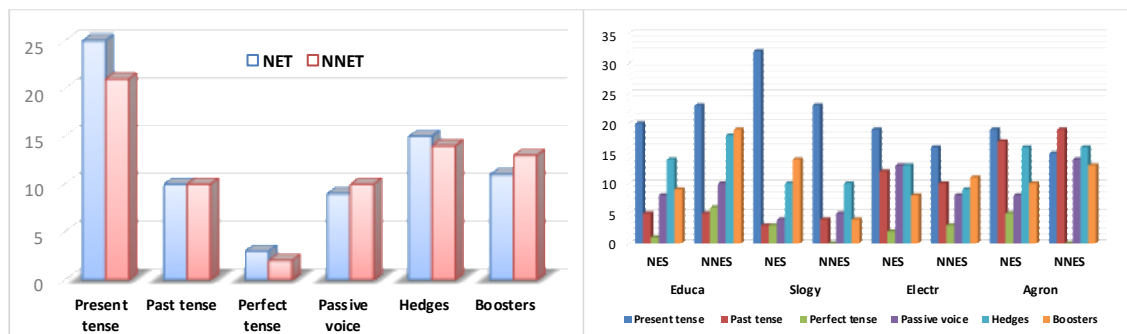


Figure 1. Percentage of move frequency in NET and NNET

Passive voice (37 times, 10%) and boosters (47 times, 13%) occur more often in the RA abstracts published in non-native English-medium journals than in those of native ones (33 times, 9% - 41 times, 11%). Nonetheless, native English-written texts outperformed non-native ones in the frequent use of the present tense (see Figure 1 above). Past tense and hedges have similar frequency of occurrence in both native and non-native English-written sub-corpora. The results of this study are consistent with those of Hu and Cao (2011), who notice that hedges were frequently used in English texts. The genre-related difference in this study is that boosters markedly occurred in English abstracts written by Ecuadorian speakers whereas in Hu and Cao, boosters were frequently used in Chinese texts. Furthermore, education and agronomy abstracts written by NNE speakers frequently used all the linguistics features. The divergence in the lexical and

grammatical choices between the native and non-native English-written texts shed lights on to assume that non-native English speakers need to adapt their texts to the prevalent lingua-cultural conventions and international discourse practices.

Even though non-native RA abstracts, authored by Ecuadorian academic writers, follow English writing conventions, a further analysis suggests that there are stylistic aspects, as word choice that needs to be polished when transferring the gist of the article from one language into another. The bold and underline words in examples 1, 2 and 3 (below) show lack of accuracy, in terms of content and lexico-grammatical choices. These examples alert writers to whom English is not their first language, in such way they pay more attention when constructing the content of scholarly and non-scholarly texts. In the sense that writers are virtually 100% responsible for readers understanding or not understanding the text. Then, in order to make reading a pleasant experience, the information should be accurate in terms of content and structure. Otherwise, it affects the comprehension and interpretation of the text. As a result, it may be judged in terms of concreteness and wordiness (Tovar, 2017), in the sense that a text poorly written in any language remains poor in its recipient/target language after being translated unless the translator re-writes the whole text (Wallwork, 2016).

1. [...] *impunity a Through the (mM) **micromachismos**, which is the term that is known to everyday...that is known to everyday Low Intensity **machos** aggression... M1 (Sociology, NNET)*
2. *The entrepreneurship **hability** was stablished as a dependent variable, and as **independants** variables.... M3 (Sociology, NNET)*
3. *This article explores the reasons why the manifestations of symbolic violence **son** and reproduced socially tolerated in most cases...M1(Sociology, NNET)*

Results of the lexico-grammatical choices in each move across RA abstracts written in English and published in North-American and Ecuadorian journals indicate differences in the linguistic realizations of the abstract moves. For example, the statistical analysis of the English-written sub-corpora in the field of humanities revealed that NNET more often use the present tense when presenting the *purpose* (31%), *introducing the topic* (25%) and *describing methodology* (24%) than their NET counterparts. Moreover, present tense was the linguistic feature in which NNET devoted much more space when constructing the *purpose* of the research. Although passive voice with 8% of occurrence is occasionally used in abstract moves, this feature did not occur in introduction and conclusion sections throughout native and non-native English-written text, in both journals. *Purpose* move and *product* move had the highest occurrence of using all the linguistic categories aforementioned, in effect, *purposes* in NNET accounted for 48 times while *products* in NET indicated 53 times of incidence along the RA abstracts.

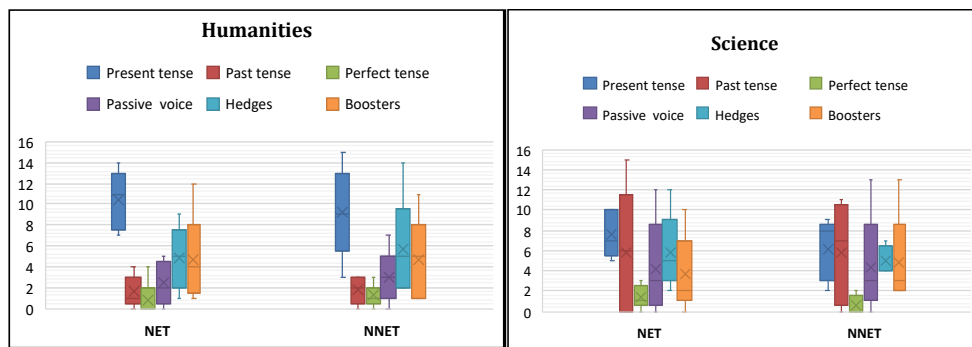


Figure 2. Linguistic features across moves in humanities and science RA abstracts

When comparing the linguistic realizations of moves in English abstracts written in the field of humanities and science (Figure 2), English abstracts in the field of science with 35%, 45%, 60%, 78%, 99%, respectively, outperformed the humanities ones (7%, 4%, 11%, 21%, 18%), in the frequent occurrence of the linguistic features, namely past tense, present perfect, passive voice, hedges and boosters. Nonetheless, present tense with 36% of occurrence reported less frequency compared to those English-written texts published in the field of humanities (39%). Although hedges and boosters showed similar tendency of usage in native and non-native English RA abstracts (see Table 1), their frequent occurrence was different within the sub-corpora in the fields of humanities (21%) and science (78%). In effect, while boosters in the field of science are non-obligatory, this category, in NET written in the field of humanities, particularly in *introduction* sections (M1) indicated the 13% of incidence. Moreover, whilst in the field of humanities hedges in M2 are used more often in NNET (29%) than in NET (18%), in science their usage is parallel (12%). Additionally, *product* sections (M4) in both fields, with 53 tokens and science with 68 tokens reported to have the highest occurrence of using all the linguistic features throughout the English texts published in North-American journals. *Conclusion* moves (M5) in NNET, meanwhile, written in humanities (13 tokens) and science (21 tokens) fields indicated the least use of the linguistic categories investigated. A possible explanation for this linguistic variation might be the cause of several factors, for instance, different lingua-cultural conventions, disciplinary practices and the context of publication, which may influence authors' preferred rhetorical and textual strategy.

Table 3. Lexical richness of English RA abstracts

	Ecuadorian RA Abstracts				North American RA Abstracts			
	Educa	Slogy	Electr	Agron	Educa	Slogy	Electr	Agron
Words in text	1705	1290	1366	1950	1182	1477	2086	2391
Lexical variation	0.35	0.44	0.42	0.38	0.4	0.44	0.37	0.35
Lexical density	0.57	0.55	0.64	0.62	0.64	0.66	0.65	0.68
Lexical sophistication	11.84%	12.09%	15.57%	9.64%	13.03%	16.52%	12.56%	11.08%
Off-list words	10.56%	11.71%	15.08%	20.46%	11.00%	13.61%	20.76%	24.30%

Table 3 presents the lexical richness, including lexical variation (LV), lexical density (LD) and lexical sophistication (LS) of English-written texts published in Ecuadorian and North American journals. Results

show that education abstracts published in Ecuadorian journals have the smallest lexical variation figures (0.35). This result confirms that the type-token ratio (LV) is very sensitive to the length of texts. Education abstracts contained 1075 tokens compared to the agronomy RA texts published in North-American journals. That is, the shorter the text, the higher figure for lexical variation. Regarding the lexical sophistication, electronics and sociology abstracts published in Ecuadorian and North-American journals report a wide range of academic words, 15.75% and 16.52%, respectively whereas agronomy ones available in the Ecuadorian journals indicated smaller percentage of advanced vocabulary (9.64%). Nonetheless, agronomy texts report the highest percentage of using words that are not in any lists, for instance, proper names and technical terms, which are unique in each area and discipline (24.30%). Education abstracts have the smallest percentage of introducing technical terminology (10.56%).

The lexical density of RA abstracts reveal variation in four disciplines, for instance, in Ecuadorian journals, education texts rate 0.57 while agronomy ones have 0.62. Similarly, whilst in North-American journals, the LD in education texts are 0.64, in agronomy ones are 0.68. From the statistical analysis, the LD is considerably higher since it is over the 40 percent-scale for the LD in written text compared to the function words. Although RA abstracts published in both journals, written in the four disciplines show different lexical statistics, the electronics and sociology ones published in Ecuadorian and North-American journals indicate a range use of varied and sophisticated words. These texts tended to use more words of lower frequency, more content words and lower repetition of words compared to the total running words throughout the English sub-corpora. That is, the electronics and sociology abstracts show the use of advanced vocabulary, namely academic words that are frequent across a variety of written academic texts from different disciplines (Laufer & Nation, 1995). Nonetheless, it is necessary to note that the percentage of academic words is affected by the specialized terminology used in each discipline. However, when examining if English RA abstracts published in North-American journals show higher lexical richness than those of Ecuadorian ones written in the fields of humanities and science, results prove that RA abstracts published in North-American journals had higher lexical richness compared the abstracts in Ecuadorian ones. The research findings are in line with those of Šišková, (2012), who met stronger instance of LV and advanced words across abstracts published in English-medium contexts.

### Conclusions

The analysis of RA abstracts, particularly in the fields of humanities and science across the four disciplines, depend on 1) social context in which the RA abstracts are constructed, used and published, 2) the adoption of the international generic formats and forms to the discourse conventions of the journal in which the paper is published, and 3) different discourse conventions —*style of academic writing within disciplines*— practiced within national or international academic communities. In general, therefore, it seems that English-written texts in the two English-medium contexts communicate the scope of the complete article by adapting their own practices and displaying the writing style of those lingua-cultural conventions practiced in each discourse community. As a result of that lingua-cultural divergence, native and non-native English abstracts significantly vary in the rhetorical organization of abstracts and their linguistic realizations.

The present study confirms that the rhetorical and textual organization of texts, in some extent, are not hierarchical adopted (Swales & Feak, 2009). This is, in great part, because writers from different linguistic and cultural backgrounds display different preferred rhetorical choice and writing strategies. Consequently, the adoption of an English style of writing is needed in order to produce accurate written texts, in terms of content and rhetorical structures. Otherwise, the texts may have difficulties to draw the attention to the academic community. Therefore, the rhetorical and linguistic elements must be carefully selected to construct accurate RA abstracts (Ren and Li, 2011). The results of this study strengthen the idea that the written discourse is socially produced within academic communities, in effect, the meaning and interpretation of the texts depend on the social practices and conventions. This, in fact, is because according to Hyland and Salager-Meyer (2008:300), “knowledge is not a privileged representation of reality but a conversation between members of academic communities who have some agreement on the ground rules for negotiating what counts as plausible”. That is to say, the ways academics write allow readers to know how the information of those texts is or was constructed. This is because experienced or novice writers, in order to get international recognition for publishing in well-structured journals, necessarily must follow or adapt their writing style and rhetorical strategies to the discourse conventions in which they wish to publish their research.

The difficulty of any text is attributed to the occurrence of difficult words, ambiguous meaning and complex syntax. In contrast, a well-written composition, among other things, makes the effective use of vocabulary, which, in some extent, is attributed and determined by its lexical richness. Although some texts may report higher figures in the use academic words, this does not mean that that text is completely accurate in terms of content and rhetorical structures, and its lexical richness. This is because the frequent occurrence of academic or advanced vocabulary is affected by the specialized terminology used across disciplines, whose meaning is explicitly and implicitly presented, and which represents the specialized knowledge of each scientific discourse community. Additionally, the understanding of the text derives from the cohesion of sentences and how such sentences are coherently connected to the others. Cohesion generates effective lexical and grammatical linking within a text or sentence that holds it together and gives meaning whilst coherence makes connections between ideas. Then, cohesion and coherence determine how challenging the text is and how well the readers will understand it. Moreover, the lexical variation is sensitive to the length of text, that is, the shorter the text, the higher figures for the type-token ratio.

The way in which academics write the English-written texts allows readers and outsiders to know how the information of those texts is or was constructed. So, it was observed that the rhetorical organization of abstracts and their linguistic realizations, in some cases, do not follow a hierarchical style. Consequently, more broadly, research is needed to determine if such rhetorical and textual differences respond to the authors' preference or discourse conventions. The usage difference concerning the rhetorical and textual organization might be attributed to the context of publication. Therefore, it is hoped that these results raise linguistic and pedagogic implications for novice writers, particularly non-native English speakers benefit from instructions that focus on academic writing instructions to construct publishable and well-written article abstracts.

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