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Titles of architecture research articles: cross-language genre analysis for disciplinary writing

ABSTRACT

Research articles titles show lexical, syntactic, and semantic complexity that vary across disciplines and languages. Writing courses should be based on sound disciplinary genre studies to fill the gap between what the university is teaching and what the students in the discipline need to know to successfully incorporate into the target discourse community. This study analysed architecture English and Spanish RA titles to identify their main characteristics and to know to what extent they differ between English and Spanish. This genre analysis study combined frameworks and methods to approach a corpus of 360 titles in English and Spanish from articles published in six journals indexed in Scopus. Results showed similarities (e.g., length) and differences (e.g., title types) across languages. Lexical density was higher in English than Spanish (t(358) 5.077, p= .000, d= 0.90). Titles tend to be very informative, but the elements informed (e.g., topic or method) and the use of punctuation marks vary across languages (p= .000). The colon (:) emerged as the most commonly used punctuation mark in both languages. It is concluded that architecture RA titles in both languages mostly accomplish the characteristics of a good title proposed in the literature (i.e., introduce the topic, indicate the scope, be self-explanatory, and indicate the nature of the study). These similarities and differences should be included in writing courses for a better understanding of the discursive practices of the Architecture community for RA title writing.

Keywords: genre analysis; disciplinary writing; architecture; research articles; title study.

INTRODUCTION

Scientific production has increased worldwide in all disciplines. Among the different genres published in scientific journals, research article (RA hereafter) is the outstanding academic genre for researchers to share the results of their studies (Diao, 2021). In this context, good RA titles are helpful for the reader (to gain time) and the writer (to gain visibility).

Titles' importance has been recognized and proper title writing has proven to be challenging and demanding (Yang, 2019). Titles constitute the first contact with the text. Therefore, they can influence the decision to read (and possibly cite) the article (Boyd et al., 2018; Li & Xu, 2019; Author, 2020; Author, 2020a; 2020b; Yang, 2019). Consequently, most researchers rely on title reading to make decisions about reading the abstract and, then the whole article (Li & Xu, 2019). Furthermore, title characteristics and quality affect citation rates (Xie, 2020; Zhu & Liu, 2023).

Writing courses should be based on sound disciplinary genre studies to fill the gap between what the university is currently teaching and what the students, including future architects, need to know to successfully incorporate into their discourse community (Author, 2020a; 2021). Spector and Damron (2017) claim that, in the case of architects and architecture students, the mastery of disciplinary writing will help students and practitioners to become better writers and better professionals. The idea of the architect just as a master of buildings is changing (Spector and Damron, 2017); however, genre analysis and academic writing in architecture has been neglected.

Several studies have been conducted for a better understanding of RAs title writing (Diao, 2021; Kerans et al., 2020; Li & Xu, 2019; Moattarian & Alibabaee, 2015; Author, 2022; Xie, 2020). Title studies have changed the advice on effective title writing from generic and ineffective to discipline-oriented (Kerans et al., 2020). Nowadays, there is enough evidence on the syntactical

and rhetorical differences of genres across disciplines (e.g., Anthony, 2001; Diao, 2021; Kerans et al., 2020; Moattarian & Alibabaee, 2015; Xie, 2020). Consequently, genres from each academic area need to be studied, but in some communities (like architecture) this issue remains unexplored and instructors lack evidence for teaching disciplinary writing effectively.

Genre knowledge and academic disciplinary writing are inherent to any discipline in higher education (López & Atienza, 2022). Genres reflect the conventions of the established community to accept new members to produce and share knowledge (García, 2019; Kotátková, 2020).There are unique genres in the architectural community. Even when novice and established architects appear to have comparable levels of technical knowledge, a deficiency in genre knowledge can be a distinguishing factor for success regarding writing for publication (Spector & Damron, 2017). Nevertheless, there is scarce empirical evidence about architecture community genres for effective academic writing teaching to undergraduate and graduate students.

Póveda (2008) claimed that genres produced by the architecture community had received little attention in genre studied. Almost two decades after Póveda's statement, nothing has changed. There are few rhetorical studies on genre analysis in architecture (Noorizadeh-Honami & Chalak, 2018; Póveda, 2010). To date, no study has been found to describe the syntactic and linguistic characteristics of architecture RA titles despite the importance of this genre for that academic community and for writing instructors.

Genre researchers have approached the study of titles considering length, syntactic structure, use of punctuation marks, informativity, and specialized vocabulary in a variety of disciplines (Diao, 2021; Kerans et al., 2020; Moattarian & Alibabaee, 2015; Xiang & Li, 2020). There is evidence indicating that RA titles lexical, syntactic, and semantic complexity varies across disciplines, so authors encourage researchers to approach title studies in the discourse communities neglected by genre studies (Diao, 2021). In the case of architecture, there is no evidence about titles of architecture RA published in English and Spanish in high-quality journals, even when architectural scholarly production is growing significantly (Sauvé et al., 2022).

Research has proven that genres from a discipline differ across languages. In this context, cross-language[1] studies provide insight for practitioners to teach academic writing. Cross-language research have been recommended to raise students' awareness of linguistic and social conventions for a genre in different languages. Those differences have been found for different genres; for instance, RA (Dontcheva-Navratilova, 2018; Uba, 2020), abstracts (Behnam, 2014; Cárcamo, 2019; Pratiwi & Kurniawan, 2021), and clinical cases (Author, 2022). Nevertheless, RA title studies have been mainly addressed from the disciplinary perspective and there is a gap regarding cross-language studies (Xie, 2020).

In that vein, an eclectic genre study based on Bhatia's (2002) multi-perspective model, the New Rhetoric and Swales' ESP schools was designed. It aimed to analyse English and Spanish RA titles. The research questions were: (a) What are the main characteristics of architecture RA titles? and (b) Are there differences between architecture RA titles across both languages? To fill the gaps, this paper presents evidence about RA titles syntactic and linguistics features in the architecture community in both languages; this insight will be valuable in the academic context for the teaching and learning of disciplinary writing. To set the theoretical basis of the research, a succinct literature review is provided. It is followed by the description of methods for data collection and analysis, the results, and a discussion with some concluding remarks, including pedagogical implications of the findings.

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[1] Cross-culture and cross-language are used interchangeably in the literature, but in the present paper just the term 'cross-language' will be considered.

LITERATURE REVIEW

TITLES IN ACADEMIC WRITING

Nord (2019) states that titles are instruments for communication between authors and readers. Therefore, they should properly achieve specific communicative goals. Different authors have expressed their criteria for good titles. Diao (2021) indicates that titles need to be clear and accurate to reflect the article's content. Swales and Feak (2004) say that a title fully accomplishing its function should specify the scope of the research, announce the topic of the study, be self-explanatory, and indicate the nature of the study. Finally, Dewan and Gupta (2016) describe good titles as concise, specific, and descriptive; according to them, authors should avoid interrogative and declarative titles as well as acronyms/abbreviations. However, this latter feature may be present in engineering RA titles because some procedures and materials are commonly abbreviated (Fyliasova, 2020), a similar phenomenon may be noticed in medicine.

A title is an embedded genre; that is, an independent genre even when it is part of another. Auken (2021) explains that, when readers approach some genres they realize that those include other genres which need to be understood and mastered to be fully competent for writing the main one. The RA includes two embedded genres: title and abstract. They function individually because they accomplish all the requirements of a genre, but without any of them the RA is not complete. In sum, to write a RA you also need to master these two embedded genres because part of a successful RA also relies on proper title and abstract written production (Costello et al., 2019).

Salager-Meyer and Alcaraz (2013) and Xiang and Li (2020) discuss the importance of titles' study and review the approaches to this genre observed in the literature. Scholars have established the term titleology to refer to the study of this genre. Xiang and Li (2020) and Diao (2021) summarize titleology history and provide a chronology of the term since it was referred to as titleologie (in French) to present days. They explain that, at the beginning, title research mainly focused on literary texts, but later it extended to other domains.

There have been titles studies for different main genres like systematic reviews (Chrastina, 2020; Author, 2020b), RA (Diao, 2021; Moattarian & Alibabaee, 2015; Pearson, 2021; Xie, 2020),clinical cases (Salager-Meyer et al., 2013), thesis (Slougui, 2018), conference presentations, (Afful, 2017; Nord, 2019) and other genres in different disciplines and languages.

Titles studies have become popular in the last decades. The literature shows research in different disciplines except for Architecture. However, it is relevant to briefly review those previous studies (see Table 1).

TABLE 1. Genre studies on RA titles in different disciplines

Authors	Discipline	Language	Average Length (words)	Most Frequent punctuation marks
Appiah et al. (2019)	Business gynaecology law	English	11.67 11.18 12.88	Colon
Diao (2021)	Library science and scientometrics	English	12.83 12.72	1. Colon 2. Hyphen
Fyliasova (2020)	Petroleum studies	English	15	1. Hyphens 2. Commas 3. Colons
Kerans et al. (2020)	Clinical medicine	English	16.6	Not included in the analysis
Moattarian and Alibabaee (2015)	Applied linguistics civil engineering dentistry	English	12.88 10.38 13.54	Not included in the analysis
(Author, 2020)	Dentistry	Spanish	15.5	1. None 2. Colon 3. Period
Xie (2020)	Natural sciences and social sciences	Chinese and English	9.87-13.70	Colon

FEATURES FOR TITLE STUDY

RA titles are expected to accomplish a communicative goal: to inform about the content of the article. Hence, titles study needs to address the features to accomplish their function. Researchers have considered title length, syntactic structure, use of punctuation marks, informativity, and specialized vocabulary in a variety of disciplines (Diao, 2021; Kerans et al., 2020; Méndez & Alcaraz, 2017; Moattarian & Alibabaee, 2015; Xiang & Li, 2020).

Author (2020) proposed the study of length, punctuation marks, style, morphosyntactic structures, rhetorical relationships, lexical density, informativity, and specialized language. For a better understanding of criteria for title analyses, a brief explanation for each is provided:

- Length: Number of words in the title. A word is the minimal unit of sense occurring between spaces. In that sense, abbreviations and words joined by a hyphen (-) are considered one (Appiah et al., 2019; Salager-Meyer & Alcaraz, 2013).
- Punctuation marks: It implies the analysis of their use in the text, in terms of presence and function.
- Title style: It covers the identification of single and multiple-unit titles. Single unit titles convey the message through a single phrase or sentence. Multiple-unit titles are composed of two or more units and are separated by a punctuation mark.

- Morphosyntactic structures: The presence of nominal phrases, full sentences, gerund phrases, and prepositional phrases in both single and multiple unit titles.
- Rhetorical relationships in multiple unit titles: The way all units are presented according to their rhetorical function: topic-scope, topic-method- topic-description-method, question-topic, question method (Anthony, 2001; Author, 2020).
- Lexical density: According to Méndez and Alcaraz (2017), to know lexical density it is necessary to divide content and function words. The former include nouns, adjectives, adverbs, participles (both present and past), symbols (e.g., mathematical symbols), and verbs (either conjugated or in base form). The latter refer to auxiliary verbs, determiners (articles and possessives), conjunctions, prepositions, and interrogative pronouns.
- Informativity: Refers to how much the title informs about the content of the RA. It is expressed through some specific content words. Its analysis includes the study of words refering to results (e.g., effect, impact, and correlation), describing actions (e.g., assessment, study, analysis), and giving information about some aspects of the study (e.g., method, scope, area), the sample or context of the study (e.g., sample, name of places, name of communities) and words belonging to the specialty (e.g., architecture, designs).
- Specialized terms: Methodology and content terms belonging to the discipline.

METHODS

This study is framed in the genre analysis theory. A genre analysis study was performed following Bhatia's (2002) multi-perspective model. The research mixed ideas from the New Rhetoric and ESP schools for genre analysis. In this eclectic approach to the genre, the textual and the contextual analysis provide a deep understanding of the genre (Swales, 1990). This approach has been recommended and used in recent studies because it provides a comprehensive understanding of socio-discursive practices of academic communities. Details about the corpus, data gathering, and analysis are presented below.

CORPUS SIZE

The corpus consisted of 4,878 running words from 360 titles (180 in English and 180 in Spanish). Titles were randomly selected from RA published between 2019 and 2023 in six journals indexed in Scopus (three in English and three in Spanish).

The corpus was selected according to Biber's (1993) and Banks' (2005) criteria for corpus representativeness and size. Relatively small corpora are useful in title studies because they let the researchers achieve detailed manual analysis. Even when software may be useful for the analyses of other genres, it can lead to different results regarding simple issues as word count (Banks, 2005). In that sense, Belcher (2005) claims that small corpora analysed this way has much to offer. Hence, manual analysis was performed to get reliable results.

CRITERIA FOR SELECTING THE CORPUS AND THE EXPERTS

The first step was to select the journals (see Table 2) according to the following criteria:
- Indexed in Scopus: a worldwide well-recognized index.
- Open access journals: any architect can have free access.
- Classified by Scopus in the Architecture category: particularly relevant and representative of architect's writing practices.

TABLE 2. Journals selected to retrieve the articles.

Title	Percent Cited	Quartile	Sample
Buildings (B)	74	1	60
Journal of Asian Architecture and Building Engineering (JAABE)	45	2	60
Journal of Architecture and Urbanism (JAU)	38	2	60
Habitat Sustentable (HS)	14	3	60
Revista INVI (INVI)	41	2	60
Informes de la Construcción (IC)	37	2	60

Note: Source Scopus sources list.

Secondly, in line with Antony's (2001) claims and Biber's (1993) criteria for representativeness, RA selection was conducted avoiding very specific features like being the most cited articles or dealing only with a determined research area of architecture. Anthony (2001) states, that generalizability of results may be affected when articles selection is based on very particular or outstanding papers that are not representative samples of academic production in the community in general. He also explains that choosing articles merely based on their order in a journal's issue (e.g., selecting just the firsts articles) or selecting all articles from a single issue or volume, implies the risk of bias. Also, the author confirmed that the RA were based on empirical research: traditional and systematic reviews, essays and other genres were no considered, because literature has shown differences in titles writing depending of the main genre in which they are embedded (Diao, 2021). All papers were published between 2019 and 2023.

Finally, a set of four experts agree to be interviewed. They were architects with a PhD degree that are frequent readers of journals indexed in Scopus. All the experts were authors of RA published in any journal in the sample between the period of study.

CRITERIA FOR CORPUS ANALYSES

Quantitative analysis criteria of titles comprised: Length, punctuation marks, title style (single and multiple unit), morphosyntactic structures, rhetorical relationships in multiple unit titles, lexical density, informativity, and specialized language (methodological and discipline vocabulary). The qualitative analysis included prototypical exemplars and some interviews with experts. Their answers yielded a better understanding of socio-discursive practices of the Architecture community publishing in Scopus.

PROCEDURES AND ANALYSES

A database was created and each title was codified according to language (English 1; Spanish 2), journal (the initials of their names), and a number from one to sixty (1-60). For example, title 2-INVI-14 was a title in the Spanish sub-corpus, retrieved from the journal INVI (and was the fourteenth title retrieved from that journal).

Quantitative and qualitative analyses were performed by two researchers independently and validated by an external experienced researcher on genre analysis to avoid bias. Online interviews with the experts were performed after the statistical analyses to understand the rationales of the writing practices observed.

Descriptive and inferential analyses were performed with the Statistical Package for the Social Sciences (IBM-SPSS 27). Quantitative analyses included descriptive statistics (frequencies,

percentages, means, and dispersion measures). However, some authors have criticized genre studies focused on the use of only descriptive statistics that do not offer solid evidence of potential differences among genres, disciplines, and languages (Hartley, 2007). Then, inferential tests to assess statistically significant cross-language differences were performed (t-Test, Chi-Square, and Exact Fisher Test, all set at α= .05).

RESULTS

TITLE LENGTH

Title length was similar for both English (M=15.15; SD= 4.17; Min-Max= 9-30) and Spanish (M= 14.95; SD=4.51; Min –Max= 7-31). The experts were asked about this result. They considered these variations may be related to the length places' names and the length of the names of the variables involved. To assess differences across languages, a t-Test at 95% IC was performed. It showed no statistically significant differences ($t_{(358)}$ 2.50, p= .802).

PUNCTUATION MARKS

Many titles lacked punctuations marks (70 % in English and 43,3 % in Spanish). Table 3 shows more variety for punctuation marks for both languages.

TABLE 2. Punctuation marks observed in the corpus

	Spanish		English	
Punctuation mark	fi	%	fi	%
None	75	42	126	69.4
Hyphen	3	1.7	3	1.7
Colon	42	23.6	42	23.6
Period	39	21	3	1.7
Semicolon	3	1.7	0	0
Colon-other	18	10	6	3.6
Total	180	100	180	100

The colon (:) was the most commonly used punctuation mark (23.6 % for both English and Spanish), followed by period (.) in Spanish (21 %) (Table 3). The Exact Fisher test was performed at p= .05. The result yielded a statistically significant difference (p= .000) with more variety in the use of punctuation marks for Spanish titles.

Some titles showed more than one punctuation mark (see Table 3 above). This use of punctuation marks was observed in multi-unit titles like these in examples (1)-(4)[2].

(1) From paddy fields to sustainable town in four decades: tight integration of urban planning and place management in Yukarigaoka, Japan (JAU-02)
(2) Challenges of civic engagement in the (post-socialist) transitional society: experiences from waterfront urban areas Mezapark in Riga and Kalarand in Tallin (JAU-10)
(3) Minga: modelo replicable de renovación urbana sostenible, caso Buenaventura (RHS-04)

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[2] All the examples of titles have been transcribed verbatim from the original sources.

(4) Vivienda sustentable: una discusión sobre el manejo eficiente del uso agua en instalaciones domiciliarias. Caso de estudio: Santa Fe –Argentina (RHS-15)

TITLE TYPES AND SYNTACTIC STRUCTURES

Two types of titles (single and multiple-unit) were observed for both languages. Results are presented in Table 4.

TABLE 3. Types of titles according to their components

	Spanish		English	
	fi	%	fi	%
Single Unit	75	41.6	126	70
Multiunit	105	58.4	54	30
Total	180	100	180	100

Examples (1)-(4) above illustrate single and multiple-unit titles in English and Spanish. Examples (5)-(6) below are single-unit titles for both languages.

(5) Self-Awareness of Soviet Lithuanian architects in their creative power and social significance (B-45)
(6) Practicidad y comunicación de lo técnico en las tipologías de vivienda CORVI (INVI-18)

Chi-square set at 95% confidence interval analysed the possible association between language and type of title (single and multiple-unit titles). There was a statistically significant association X^2 (1, N=360) = 9.766; p= .002.   Single unit titles are more frequently used in English whereas multiunit titles are preferred for Spanish RA titles. Experts were asked about those preferences. English authors indicated they like to be as concrete and informative as possible and Spanish authors indicated that they like to provide as much information as possible; in that sense, they may need more than one content unit.

The syntactic structure of titles was analysed for both, single and multiple-unit titles (Table 5). The most prevalent structures for both languages were NPh (75 in Spanish and 114 in English) and NPh-NPh (75 in Spanish and 42 in English) (see Table 5).

TABLE 4. Syntactic structures in single and multiple unit titles

	Spanish		English	
Syntactic structures	fi	%	fi	%
NPh	75	41.67	114	63.3
NPh-NPh	75	41.67	42	23.3
NPh-NPh-NPh	6	3.33	6	3.3
NPh-NPh-NPh-NPh	12	6.67	0	0.0
GPh-NPh	3	1.67	3	1.7

NPh-GPh	3	1.67	0	0
FullSentence-NPh	6	3.33	0	0
PrepPh-NPh	0	0.00	3	1.7
FullSentence	0	0.00	3	1.7
GPh	0	0.00	9	5.0
Total	180	100	180	100

Note: NPh= nominal phrase, GPh= gerund prhase,
PrepPh= prepositional phrase.

Examples (5)-(6) above are examples of NPh in single unit titles. All full-sentences found were interrogative sentences; see examples (7)-(8).

(7) ¿Todos los caminos conducen a la vivienda social? Trayectorias residenciales como factor de diferenciación (INVI-06)

(8) Analytical methodologies concerning historic neighbourhoods for urban renewal in southern Chile. How to understand the place to intervene? (JAU-57)

Descriptive statistics analyses in Table 5 (above) show some differences across languages. According to the Fisher Exact test, those were statistically significant (15.124; p= .017). Examples (9)-(10) illustrate four-unit titles found only in Spanish and GPh titles found just in English, respectively.

(9) Edificios prefabricados en Chile: diagnóstico energético a 40 años de Su construcción. Caso de estudio: Edificios KPD, Santiago de Chile (RHS-06)

(10) Pursuing the concept of existence in the designs of civic centers: the 17th–18th – Century Persia (JAU-16)

RHETORICAL RELATIONSHIPS OF COMPOUND TITLES

As shown in Table 6, Topic-Description was the most frequent rhetorical relationship in both English (n= 49) and Spanish (n= 25). There were differences across languages for the type of relationships; those were more varied in Spanish (seven) than in English (four). Fisher Exact test confirmed statistically significant differences for rhetorical relationships across languages (16.537; p= .010).

TABLE 5. Rhetorical relationships in titles

	Spanish	English
Rhetorical relationship	fi	fi
Topic-Method	15	21
Method-Topic	3	0
Topic-Scope	12	15
Question-Topic	9	0
Topic-Description	49	25

Topic-Description-Method	3	0
Topic-Description-Method-Scope	14	0
Topic-Question	0	3
Total	105	66

Interviewed experts suggested that this trend may be related to the type of study; however, the present research did not approach such a relationship. They claimed that, in English, it is important to present the topic whereas talking about the method in the title may not the very relevant, except for case studies.

LEXICAL DENSITY

Lexical density was higher in English (M= 71.35; SD= 8.16; Min-Max 50-89) than in Spanish (M= 63.57; SD=8.59; Min-Max= 42-89). This difference was found statistically significant (t($_{358}$) 5.077, p= .000, d= 0.90). Table 7 shows details about the frequency of function and content words in both sub-corpora.

TABLE 6. Descriptive results for content and function words in both English and Spanish

	English			Spanish		
	M	SD	Min-Max	M	SD	Min-Max
Content words	10.78	3.21	1-9	9.42	2.86	5-18
Function words	4.37	1.72	1-9	5.53	2.24	1-13

Example (11) illustrates a title with high lexical density (50%) in English and (12) one in Spanish (47 %).

(11) An exploratory analysis of housing and the distribution of COVID-19 in Sweden (B-02)
(12) El diseño político del proceso de financiarización de la vivienda y la infraestructura en Chile (INVI-51)

INFORMATIVITY

Informativity was studied through the presence of words referring to actions (e.g., study, analysis), give an idea of expected results in the study (e.g., effect, correlation), identify the method or design (e.g., case study), sample (i.e., participants, geographical area, context), and specialty (i.e., words that indicate that the study refers to any of the Architecture areas or specialties). Table 8 shows the frequency of titles showing those words. It is worthy to mention that some titles providing different types of information.

TABLE 7. Information provided in the titles

Information provided	English N Titles	Spanish N Titles	Total
Samples	132	150	282
Method	33	42	75
Results	51	45	96
Actions	150	141	291

Specialty	150	159	309

The amount of those words per title was also analysed to know the average in both English and Spanish (see Table 9).

TABLE 8. Descriptive results for informative words per title

Words referring to	English			Spanish		
	M	SD	Min-Max	M	SD	Min-Max
Samples	2.15	1.62	0-6	2.30	1.62	0-6
Method	0.25	0.60	0-3	0.25	0.47	0-2
Results	0.28	0.45	0-1	0.27	0.48	0-2
Actions	1.23	0.81	0-3	1.12	0.804	0-3
Specialty	2.08	1.36	0-6	2.73	1.75	0-7

The analysis showed that titles in architecture RA tend to be very informative. As noticed in example (13), some titles in English include information about actions, results and sample or context.

(13) Comparison of effects of spatial anticrime in open communities in China (JAABE-17)

Appiah et al. (2019) considered that research-related expressions and phrases, such as 'investigation of', 'study of', or 'observation on' are ineffective in titles. However, the corpus showed a trend to highlight case studies in Spanish (n=30) more than in English (n=15) (see Table 10). No statistically significant differences were observed across languages. When expert informants were asked about their opinion of this finding, they confirmed that case studies are very important for architects in Spanish. Then, they consider that indicating that it is a case study attracts Spanish readers' attention.

TABLE 9. Results of t tests for informative words

Words referring to	t	gl	p
Samples	0.505	358	.614
Method	0.000	358	1
Results	195	358	.846
Actions	0.791	358	.430
Specialty	2.262	358	.026

In English, authors inform about case studies in parenthesis or as an independent unit separated by a colon (14-15); but in Spanish it is a unit separated mostly by a semicolon, or a period (16-17).

(14) The impact of environmental construction on the spatial configuration of traditional Iranian housing (case study: comparison of Dezful and Boroujerd traditional housing) (JAU-06)

(15) Factors influencing street use frequency and evaluation of street image in densely built-up areas: a case study in Shinyo neighborhood, Nagata Ward, Kobe (JAABE-07)

(16) Análisis de la Modulación Arquitectónica en Edificaciones Menores de CLT; estudio de casos. (RDC-12)

(17) Mejoras en el desempeño energético de edificios en verano mediante la integración de envolventes ventiladas en fachadas norte y cubiertas. El caso de Mendoza, Argentina.

TABLE 10. Abbreviated terms in titles

Spanish	English

Abbreviate Terms	fi	%	fi	%
Yes	12	6.7	12	6.7
No	168	93.3	168	93.3
Total	180	100	180	100

The presence of abbreviated terms referring to specialty was analysed because specialty words have been found were along with abbreviations in almost 30 % of the corpus in previous studies in other discourse communities (Fyliasova, 2020). Both languages showed little use of abbreviations (Table 11).

DISCUSSION

This study is a relevant insight for teaching practitioners and for architects aiming to publish RA because to date, no study has been found to approach the issues in the architecture academic community. Like in Moattarian and Alibabaee (2015), Shahidipour and Alibabaee (2017), and Soler (2011), findings of the present study show some cross-language similarities and differences that need to be exposed for a better understanding of the discursive practices of the architecture community for RA title writing.

Architecture RA titles in English in this study are larger than in computer science (Anthony, 2001), civil engineering, applied linguistics and dentistry (Moattarian & Alibabaee, 2015), business, gynecology and law (Appiah et al., 2019), and shorter that RA titles in clinical medicine (Kerans et al., 2020). RA titles in Spanish showed similar length to RA titles in dentistry (Author, 2020). As previously claimed by Diao (2021) in scientometrics, architects seem to understand the potential benefits of a balanced length and the association between length and informativity. Long and complicated titles may cause loss of interest for readers (Dewan & Gupta, 2016), but if titles are extremely short they may affect citation rates (Boyd et al., 2018; Costello et al., 2019). This knowledge, as indicated by Xie (2020), is helpful to guide researchers to compose appropriated RA titles. Likewise, is useful to plan discipline writing courses.

The colon (:) emerged as the most common punctuation mark in both languages. This finding is consistent with previous studies in library science, business, gynaecology, and law (Appiah et al., 2019; Diao, 2021). This trend in the use of colon may be a consequence of the controversial belief that hanging or colonic titles (titles with units separated by a colon) are partially related to high citation rates (Rosenkrantz et al., 2018; Xie, 2020). Apart from this similarity in the use of colon, a cross-language statistically significant difference between English and Spanish was found for punctuation marks.

Authors tend to use more punctuation marks in Spanish than in English. The finding of RA titles in Spanish is like (Author, 2020) in dentistry; they found that most titles lacked punctuation marks and, in those who used them, colon (:) and period (.) were the most frequently observed. However, there are no previous studies in architecture in English or Spanish to observe similarities and differences.

Concerning syntactic structures and title types, nominal titles, also referred to as indicative or descriptive (Salager-Meyer et al., 2017), are highly present in both languages. The higher presence of NPh is like other findings in different disciplines (Appiah et al., 2019; Diao, 2021; Méndez & Alcaraz, 2017; Author, 2020). The most prevalent structures for both languages were NPh and NPh-NPh. Four-unit titles were observed for titles in Spanish. In the case of English,

similar to Diao's (2021) study, four-unit titles did not occur.

This finding reveals similarities with other disciplines and languages (Appiah et al., 2019; Diao, 2021; Méndez & Alcaraz, 2017; Author, 2020). It may be explained by the fact that opting for nominal group titles is a linguistic tactic frequently followed in scientific discourse (Xie's, 2020) because this kind of construction seems to be a fitting structure for titles, as it enables the realization of informative content (Soler, 2011).

The present results are consistent with Diao's (2021) statements. Authors prefer nominal phrases in single-unit and multiple-unit titles. Nevertheless, a cross-language difference was observed for titles types. Single-unit titles are more common in English; this finding is consistent with Moattarian and Alibabaee's (2015). Multiple-unit titles prevailed in Spanish as found by Haggan (2004) and Hartley (2007). Hartley (2007) noticed that this kind of title is usual in the disciplines of arts and humanities.

The results in the present paper seem to support previous claims about variations across disciplines and languages (Noorizadeh-Honami & Chalak, 2018). Research and academic writing instructors should consider those differences when teaching. However, future research might include comparative studies with balanced corpora from architecture and other disciplines to get clearer view of the issue.

RA titles are expected to persuade the readers to approach the whole text. The information of titles about the respective enclosing text should be enough to describe the latter and appeal to readers' attention, but not too exhaustive because the reading might become superfluous (Nord, 2019). In few words, authors need to know what to inform and how to do it to reach the target audience.

In terms of informativity, the present study shows some practices differing from other disciplines. For instance, architects include fewer types of words informing about methodology than authors in scientometrics and library sciences (Diao, 2021) or Dentistry (Morales, Perdomo, Cassany, Tovar, et al., 2020). Informativity of Architecture RA titles is mainly related to actions, samples, and specialty; those issues seem to be more relevant than methods and results. Finally, the low presence of abbreviations may not be a surprise because, as Dewand and Gupta's (2016) reported, architects consider that abbreviations and acronyms do not add quality or informativity to texts.

CONCLUSIONS

Regarding the first research question, it is concluded that architecture RA titles in English and Spanish seem to accomplish most of the characteristics of a good title proposed by Swales and Feak (2014): introduce the topic, indicate the scope, be self-explanatory, and indicate the nature of the study (just in case study). Concerning the second research question, there are cross-language differences regarding title type and the use of punctuation marks.

The results in this study have pedagogical implications: first, it is valuable for the design of discipline-based reading and writing courses in both languages. Secondly, it represents useful insight for the architects aiming to publish RA according to their academic community conventions, but have not received formal training in disciplinary writing.

There are few papers addressing genres for scientific publication in architecture. Further studies on other embedding genres (e.g., reviews and essays) and embedded ones (e.g., abstracts and titles) in this discipline are strongly recommended. Those studies would contribute to increase knowledge about the socio-discursive practices of the architectural community and to enhance disciplinary reading and writing courses for undergraduate and graduate students. Deepening in

the knowledge of architecture genres will help architects to be more competent for publishing the results of their research in high-quality journals like recognized members of their academic community.

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