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Editors

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This special issue compiles papers from the 48th Systemic Functional Congress (ISFC48 organised in March 2023 by the Systemic Functional Linguistics Association of Tunisia (SYFLAT) and the Laboratory of Approaches to Discourse (LAD-LR13ES15), under the auspices of the Faculty of Letters and Humanities at the University of Sfax. This special issue, which explores the theme of power and empowerment in relation to language and systemic functional theory, is divided into two volumes. The contributions in this first volume provide some reflections on SFL notions, which can empower both the theoretical apparatus and its application to different types of discourse. The papers in the second volume showcase how SFL language descriptions can empower pedagogical practices.

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Linking adverbials in Tunisian research articles across two disciplines: A comparative corpus-based study

Donia Kaffel

Abstract

Cohesion, as one of the most significant properties that characterize a text (Halliday & Hasan 1976, 4), can be maintained and traced through detecting a variety of cohesive means. The cohesive devices explored in this study are Linking Adverbials (LAs), defined as "important devices for creating textual cohesion" (Biber et al. 1999, 875). LAs are explored in research articles (RAs) written by Tunisian researchers in Linguistics and Computer Sciences. This comparative study investigates the semantic functions and the distribution of LAs in the different sections of RAs. The aim is to examine the choice of LAs as affected by genre features and disciplinary differences, from an SFL perspective. While analysing a corpus of 20 RAs, quantitative methods, maintained through statistical and frequency distribution analysis, are applied and supplemented qualitatively. The study shows that LAs are frequently and differently employed in both disciplines. Results reveal that LAs function not only as semantic linkers, but also as means to fulfil the communicative functions in each section. In conclusion, disciplinary and sectional distinctions in the use of LAs in RAs reflect and support the effects context engenders on lexico-grammatical choices in academic writing. Accordingly, the use of LAs with consideration to genre and disciplinary specificities can help writers from different fields conform to generic differences and write respectively, thus empowering their academic writing skills.

Keywords

Cohesion; linking adverbials; academic writing; genre; disciplinary variation

Introduction

The notion of cohesion has been widely investigated from a multiplicity of perspectives. Indeed, cohesion is an important aspect of a text and it can be realised through a variety of means (Halliday & Hasan 1976). Linking adverbials (henceforth LAs) are the cohesive means explored in this study as they represent "important devices for creating textual cohesion" (Biber et al. 1999, 875). The use of these linking devices is important to cohesively build a text. LAs are common in academic prose as they reflect not only the communicative need of the register but also the

characteristic choice and the tendency of writers to mark the links between ideas overtly, as arguments are being developed (Biber et al. 1999, 880).

Academic discourse is instrumental to knowledge production and propagation as it encapsulates an array of academic genres and disciplines (Hyland 2004). Research articles (RAs) represent the academic genre explored in this study. RAs serve as "the pre-eminent genre of the academy" (Hyland 2009, 67) in which researchers seek to cohesively present their claims to convince readers of the importance of their research. In this study, RAs are explored across two disciplines within academic discourse, which are Computer Sciences and Linguistics, representing the hard and soft sciences, respectively. Disciplines vary and are classified within a continuum ranging between the hard sciences, as empirical and objective and relying on experimental and quantitative methods, and the soft sciences, as being explicitly interpretative, relying on discourse arguments and qualitative methods (Hyland 2009, 63).

A number of studies have been conducted to investigate the use of LAs (Peacock 2010; Biber et al. 1999, Liu 2008; Abumelha & Alyouself 2019). However, little research has been conducted to tackle the use of LAs across disciplines in RAs written by Tunisian researchers and in relation to the communicative moves of the genre. Accordingly, this study aims to explore the use of LAs by Tunisian researchers in RAs in Computer Sciences and Linguistics, supporting disciplinary differences and investigating the influence of generic constraints on lexico-grammatical choices pertaining to the use of these linkers. This study also aims to present pedagogic implications that can support and empower researchers, especially novel ones, in producing cohesive academic texts.

The structure of this paper is organized as follows: in sections 1 and 2, the literature review is presented, highlighting the variables explored in this study. The corpus, methodology and procedures are presented in section 3. In section 4, the results and findings are displayed in relation to the function of LAs and their use in the different sections of RAs. Finally, the conclusion, pedagogic implications and limitations are presented in the last section.

1. Linking Adverbials

Cohesion is a semantic concept and a feature that shapes a text as "it refers to relations of meaning that exist within the text, and that define it as a text", with the text being "a unified semantic unit of language in use" (Halliday & Hasan 1976, 4). Indeed, unity and texture within a text are important to establish the functions intended behind language use. In fact, Halliday and Hasan (1976, 6) maintain that texture is established through a number of linguistic features and cohesive devices that contribute to a text's unity as a whole. As a means to explore cohesion in a text, the textual metafunction is foregrounded by Systemic Functional Linguistics (SFL) highlighting the linguistic mechanisms and the lexico-grammatical elements that make a text coherent.

LAs are one of the instrumental tools employed by writers to maintain a cohesive text (Peacock 2010). LAs are examined in this study as they "play a very important role in discourse cohesion" (Liu 2008, 491). These linkers are important cohesive elements as they explicitly signal semantic relations between different parts of the text. Biber et al. (1999, 875) foreground that "the primary function of linking adverbials is to state the speaker/writer's perception of the relation between two units of discourse". LAs have been categorized differently as they fulfil various semantic relations between different parts of the text. Biber et al. (1999) have classified LAs into six semantic categories encompassing LAs of addition and enumeration, summation, apposition, result and inference, contrast and concession, and transition, as detailed in Table 1.

Table 1: The classification of LAs

Categories of Las		Examples
Additive LAs	LAs of addition	Moreover, Besides, In addition, Additionally, Furthermore, Similarly, Also, …
	LAs of enumeration	First, Second, Third, Firstly, Secondly, …
LAs of summation		In sum, To conclude, Overall, Briefly, …
LAs of apposition		For example, For instance, that is, i.e., e.g., In other words, …
Resultative LAs	LAs of result	Therefore, Thus, Consequently, As a result, Hence, …
	LAs of inference	Then, so
Adversative LAs	LAs of contrast	In contrast, Otherwise, On the other hand, Conversely, On the contrary, …
	LAs of concession	However, Nevertheless, Anyway, Yet, …
LAs of transition		By the way, Incidentally

(Source: *Biber et al. 1999*)

The different functions of LAs are thoroughly investigated as they serve to semantically and logically "signal the connections between passages of text" (Biber et al. 1999, 875), namely in written discourse. Charles (2011, 22) affirms that "the use of such cohesive devices is characteristic of academic writing". Indeed, the use of LAs is especially important in academic discourse, in general (Biber et al. 1999) and in RAs in particular (Peacock 2010) as they serve as cohesive and signalling devices.

2. The Research Article Genre / Academic Discourse

Academic discourse is central to constructing knowledge, disciplines and the professional careers of academics (Hyland 2009, 18). It is perceived as a wide sphere that involves a variety of disciplines and academic genres such as RAs. For researchers, scientific writing is distinguished from other types of discourse as a

means to present and share their findings. Biber et al. (1999, 880) affirm that "a very important aspect of academic prose is presenting and building arguments" and, in this sense, the concept of cohesion is of particular importance in academic discourse as it aids in maintaining credibility, clarity and persuasiveness across genres and disciplines.

Academic genres vary within academic discourse and texts are distinctive as they conform to the features of the specific genre they belong to (Choura 2019, 319). A genre is a "staged, goal-oriented, purposeful activity in which speakers engage as members of our culture" (Martin 1985, 25). In this study, research articles (RAs) are examined as they are the genre with "the principal site of disciplinary knowledge-making" (Hyland 2009, 67). It is an important outlet for academics to present their studies and findings. The communicative purpose of the genre is maintained through the rhetorical structuring of a number of communicative 'moves' which constitute "a stretch of text with a specific communicative function" (Swales & Feak 2012, 291). Many RAs adopt the Introduction, Methods, Results and Discussion (IMRD) structure (Swales & Feak 2012, 278) as an outlet to build and organize ideas and maintain comprehension and persuasiveness in different disciplines.

Academic texts also vary across disciplines. Hyland (2006) affirms that disciplines are "domains of values and modes of enquiry" (Hyland 2006, 18) that offer researchers "a framework for conceptualising the expectations, conventions and practices which influence academic communication" (Hyland 2006, 20). Indeed, "disciplines vary in what needs to be included" (Swales & Feak 2012, 289). Academic discourse encompasses a variety of scientific disciplines that are widely categorised as hard and soft sciences (Hyland 2008, 550). These disciplines are distinguished in terms of research paradigms, argumentative strategies, patterns and vocabulary (Hyland & Bondi 2006, 50). For instance, lexico-grammatical choices constitute one of the distinctive variations that exist from a discipline to another (Benelhadj 2019; Choura 2019; Peacock 2010; Sellami Baklouti 2011, 2016). This is supported by the SFL Theory pertaining to contextual analysis that maintains that a register is characterised by its lexico-grammatical choices as texts are affected by contextual factors that engender frequencies of

choices in the text (Sellami Baklouti 2013, 222). In this paper, LAs are explored in RAs in Computer Sciences and Linguistics as representatives of hard and soft sciences. The aim of this study is to test the effects of genre and disciplinary variation on the use of LAs as cohesive lexico-grammatical devices.

3. Methodology

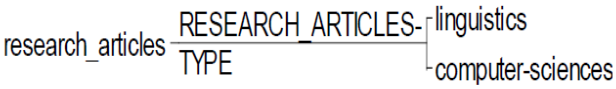
This paper explores the use of LAs across Computer Sciences and Linguistics and investigates their distribution in the different sections of the RAs. This comparison aims to explore the effects of disciplinary variation and generic features on lexico-grammatical choices. To study the distribution of LAs, quantitative and quantitative analyses are applied to a corpus that consists of a collection of 20 RAs written by Tunisian researchers in Computer Sciences and Linguistics. The RAs are collected randomly with the aim to ensure equal representation of the disciplines. The majority of the articles have been provided with the help of researchers in the fields upon request. Others have been amassed from online databases and journals. They are compiled with the purpose of approximating the number of words in each subcorpus to 52.000 words. The corpus is detailed in Table 2:

Table 2: Corpus description

	Linguistics (L) RAs	**Computer sciences (CS) RAs**
Number of articles	9	11
Number of words	52221	52701

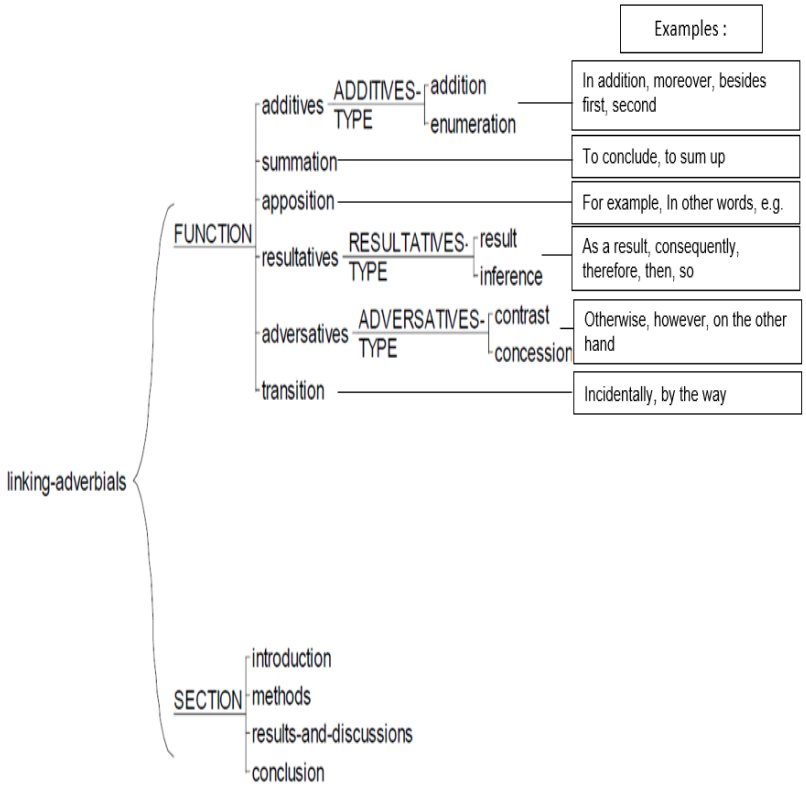
As shown in table 2, 9 RAs in Linguistics (L, 1 to 9) and 11 RAs in Computer Sciences (CS, 1 to 11) are compiled for analysis. The corpus is annotated and analysed using the UAM CorpusTool as it facilitates the extraction of LAs in both subcorpora and aids in statistical analysis. First, certain sections not included in the IMRD structure of research articles are omitted. These parts include bibliography notes, references and abstracts. The corpus is, then, converted to TXT files and incorporated in the Linking Adverbials UAM project. After the incorporation of the corpus, two layers of analysis are created. The first layer pertains to the disciplines and is presented in Figure 1:

Figure 1: The discipline system network



The second layer pertains to LAs in terms of their function and the RA section in which they occur. The scheme of this layer, including examples of LAs, is displayed in Figure 2:

Figure 2: The Linking Adverbials system network



The results extracted from the data are statistically computed through the UAM CorpusTool software and are presented in a set of figures and tables. The distribution of LAs in the corpus is analysed quantitatively, with the aid of frequency distribution analysis and the Chi-square test, and qualitatively, through the comparative descriptive analysis of the quantified data. Indeed, this corpus-based study focalizes on the coupling of both types of

methods of analysis for complementarity. The comparative analysis of the semantic functions of LAs is conducted in Computer Sciences and Linguistics. LAs are also explored in the introduction, methods, results and discussion, and conclusion sections of RAs. The choice behind investigating the results and providing the discussion in one section goes in line with the study aims, looking at the functions of LAs in accordance with the communicative moves across disciplines.

4. Results and Discussions

In totality, 1100 LAs have been employed by researchers in the corpus. The number of LAs employed in both disciplines is almost equal, as presented in Table 3.

Table 3: The distribution in LAs in Linguistics and Computer Sciences

Discipline	**Linguistics**	**Computer sciences**	
Number of LAs	538	562	Total: 1100

Table 3 shows that researchers in both disciplines tend to frequently use LAs, which highlights their significance in academic writing. Biber et al. (1999) support the idea that LAs are commonly used in academic discourse as they are employed by researchers as a tool to cohesively present and support arguments and affirm that "the higher frequency of linking adverbials in academic prose not only reflects the links between ideas but also the characteristic choice of this register to mark the links between ideas overtly" (Biber et al. 1999, 880). In fact, "all semantic categories of linking adverbials are useful in academic prose for developing arguments or signalling the connection between specific information and an author's point" (Biber et al. 1999, 881). This sheds light on the importance of LAs as a means to cohesively link different parts of the text. To explore the effects of disciplinary differences and genre features, the semantic functions of LAs in the RA sections are examined in Linguistics and Computer Sciences.

4.1. The Function of Linking Adverbials in Research Articles in Linguistics and Computer Sciences

The frequency distribution of the semantic categories of LAs in Linguistics and Computer Sciences presents statistical significance especially in accordance with the use of additives, appositives, resultatives and adversatives, as detailed in the following table:

Table 4: The frequency of the functions of LAs in Linguistics and Computer Sciences

	Linguistics		**Computer Sciences**			
Feature	Number	Percentage	Number	Percentage	Chi Square	Sig
Function	N=538		N=562			
Additives	207	38.48%	289	51.42%	18.611	+++
Summation	6	1.12%	4	0.71%	0.497	
Apposition	127	23.61%	61	10.85%	31.543	+++
Resultatives	103	19.14%	155	27.58%	10.893	+++
Adversatives	95	17.66%	53	9.43%	15.979	+++
Transition	0	0	0	0	0	

Table 4 shows that, in general, the most commonly employed LAs in the corpus are LAs of addition and enumeration. The second most frequently used are resultatives, followed by appositives and adversatives. LAs of summation are not frequent and LAs of transition are not present in the corpus. Table 4 also indicates that while Computer Sciences uses more additives and resultatives, Linguistics has more appositives and adversatives.

Additives are the most frequent LAs in the corpus, which foregrounds their importance in structuring a cohesive text. In fact, these LAs are more commonly used in Computer Sciences than in Linguistics. LAs of addition and enumeration are used inter-relatedly to present and organise claims. The following examples highlight the use of LAs of enumeration as cohesive means in the announcement of findings in Computer Sciences in comparison to Linguistics:

> Example 1 (CS, 1): From experimental results, we can see that: **First**, as Table 12 shows, the features extracted by Beta-

> Elliptic model …**Second**, it is important to observe that from the results, the combination of Fuzzy Elementary Perceptual Codes with AOBS and with SBS improves the identification rate…**Third**, these experiments have shown that the results increase proportionally with the number of training pages. …. **Fourth**, as shown in Figure 15, we plot the CMC Curves of performed writer identification systems…. **At last**, as Table 13 shows, our proposed SBSFEPC system … achieves the best identification rate with 96.90% compared to the previous systems....

> Example 2 (L, 1): As Table 4 indicates, there are only eight ditransitive patterns in the corpus…. These findings are partially consistent with the claims of Biber et al. (2007, 389) who maintain that the NP-NP pattern "is moderately common in conversation and fiction" while the O-Op pattern is "moderately common, especially in the written registers." Unlike the findings of Biber et al. (2007), this research shows that the O-Op pattern dominates the RAG. These findings can be seen as local probabilities "that are particular to one subsystem or text type, or even to one body of text" (Halliday & Webster 2009, 252), **i.e.** the RAG in this research. The findings **also** reveal that ditransitive phrasal and clausal patterns are not equally distributed…

These examples highlight the frequent use of additives in Computer Sciences compared to Linguistics. Indeed, as presented in example 1, researchers in Computer Sciences explicitly announce and enumerate the findings, which facilitates comprehension. This is evident in the use of LAs of enumeration such as "first, second, third" in a chained way. In linguistics, as shown in example 2, the findings are displayed cohesively in relation to previous studies, without the use of LAs, showing different cohesive strategies to announce findings.

Moreover, the common use of resultatives in Computer Sciences in comparison to Linguistics is highlighted. The following example presents the use of resultatives in Computer Sciences:

> Example 3 (CS, 3): **In fact**, using this weighted matrix, the original spectral bands have been ranked based on their contribution in subspace. **Therefore**, based on the weight

> value for each band and the threshold, the relevant bands have been adaptively selected.

Example 3 shows the use of the resultative LA "therefore" to justify the reasons behind opting for the selected bands in order to persuade readers and maintain credibility of results. The most frequent use of resultatives by researchers in Computer Sciences can be attributed to the nature of the discipline as it belongs to hard sciences in which "the researcher would aim to find causal relationships between the data gathered" (Alharahsheh & Pius 2019). Researchers in this discipline rely on quantitative data, following a positivist methodology that is deductive and based on following a logical structuring towards findings.

On the other hand, appositive and adversative LAs are more frequent in Linguistics than in Computer Sciences. First, appositive LAs are important to provide clarifications through examples or restatements to facilitate comprehension, as shown in this example:

> Example 4 (L, 1): **That is**, knowledge, being the "product of social activity" (Malhotra 2001, 217), reflects "people's internalized experiences" and cultural beliefs and thus is "less codifiable" (Deltor 2004, 2). The NP-NP pattern, therefore, serves sociologists' interests, …

As revealed in example 4, "that is" is used to reformulate what is previously mentioned. The restatement is supported by quotes from previous studies to maintain comprehension and credibility. Researchers in Linguistics tend to use appositive LAs to recall previous studies as a tool to strengthen their own studies.

Second, adversative LAs are more frequently used in Linguistics as a means to present counterclaims and point gaps, as presented in example 5:

> Example 5 (L, 2): Several works have a common characteristic: their comparable corpora are composed from articles related by inter-language links that may share or not the same topic. **However**, our work is based on the definition of comparable corpora, a set of texts that share some criteria without being in mutual translation.

The writer employs the LA "however" to highlight the innovation and the contribution of their research. Indeed, studies in

this discipline focalize on tackling gaps and building up knowledge in accordance with previous research. Thus, an interpretivist method that is inductive and argumentative and is supported by literature is adopted as it "is aimed to attain deep understanding of a specific case with in depth exploratory studies to enable finding quality responses throughout the research" (Alharahsheh & Pius 2019, 40).

In sum, the comparative semantic study of LAs in the corpus has revealed that researchers employed more additives and resultatives in Computer Sciences and more appositives and adversatives in Linguistics. Such results can be attributed to disciplinary variation and the different research strategies and paradigms adopted in each discipline. According to Peacock (2010), differences at the level of use of LAs between disciplines depend on the stylistic choices of researchers to either explicitly foreground semantic relations or opt for a descriptive and narrative text, which is highly dependent on the research paradigm of the discipline and which stresses the importance of LAs in RAs across disciplines. As supported by Peacock (2010), LAs do not only function as linkers but they also serve as tools for researchers to maintain comprehension, credibility and authenticity. In this accord, it is important to investigate the functions of LAs in the sections of RAs in both disciplines.

4.2. Distribution of Linking Adverbials in the sections of the Research Articles in Linguistics and Computer Sciences

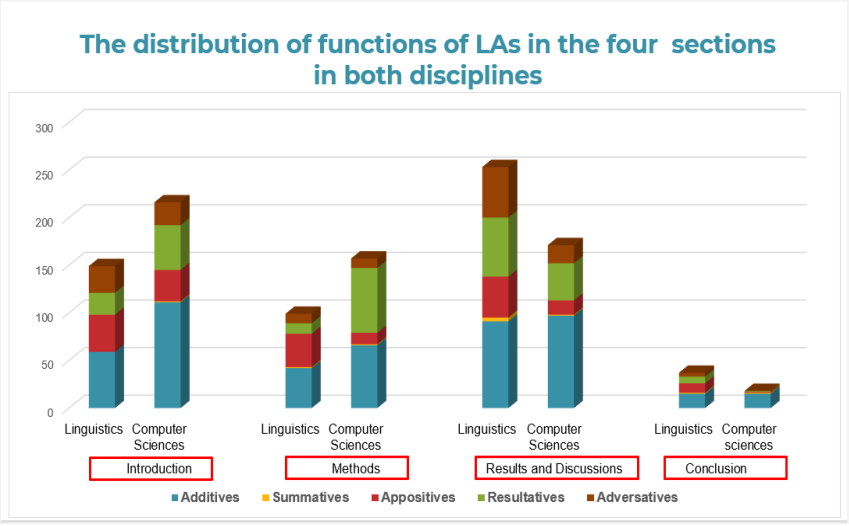
The distribution of LAs across the sections of RAs in Computer Sciences and Linguistics is presented in the following table:

Table 5: The distribution of LAs in the different sections of RAs in both disciplines

	Linguistics		**Computer sciences**			
PLACE	Number	Percentage	Number	Percentage	Chi square	Sig
Introduction	149	27.70%	216	38.43%	14.297	+++
Methods	99	18.40%	157	27.94%	13.993	+++
Results and Discussions	253	47.03%	171	30.43%	31.971	+++
Conclusion	37	6.88%	18	3.20%	7.813	+++

Table 5 shows that, in general, LAs are more frequent in introductions and results and discussion sections compared to the methods and conclusion sections. Across disciplines, in Computer Sciences, LAs are mostly used in the introduction and the methods section, whereas, in Linguistics, LAs are frequent in the results and discussions and the conclusion sections. The semantic functions of LAs across the RA sections are presented in the following figure:

Figure 3: The distribution of functions of LAs in the research article sections in Computer Sciences and Linguistics



First, Figure 3 shows that additives are mostly used in the introduction section especially in Computer Sciences in comparison to Linguistics. Example 6 presents a part of the introduction section of a Computer Sciences article:

> Example 6 (CS, 2): This paper is organized as follows: **First**, in section II, we define the research questions on academic performance context. **Second**, the methodology of survey is presented in section III. **Next**, a discussion on identified research question is described in section IV. **Finally**, we propose a new solution for grouping learners based on their academic performance in section V.

This example shows how LAs of enumeration are used to indicate the structure of the research article to provide a map for readers. A logical structuring of the paper is indicated through

explicitly announcing the development of the text through these linkers. For instance, this structuring is aimed to fulfil one of the main purposes of the introduction section which is "to provide the rationale for the paper" (Swales & Feak 2012, 285). Hyland (2009) affirms that "a great deal of rhetorical effort also goes in the introduction of an article where writers seek to create a research space to justify the importance of their work" (Hyland 2009, 71). Accordingly, the use of LAs in the introduction section serves as a means to present the communicative moves identified in the section.

Second, LAs in the methods section are more frequent in Computer Sciences than in Linguistics, particularly resultative LAs. The following example shows the use of LAs of result in Computer Sciences in the methods section:

> Example 7 (CS, 3): We aim to get an affinity matrix from extracted features with YT LPP. **Hence**, we use the above spectral library in order to classify the different pixels and to construct the labelled weighted matrix W. **Thus**, it consists to compute the geodesic distance min(dM (i, j)) between all pairs of pixels.

Example 7 shows that resultative LAs such as "hence" and "thus" are used to present the means adopted to reach the study aims. Here, resultatives are used to provide the reasoning behind the tools and the procedure followed to persuade readers of the credibility and validity of the findings, thus fulfilling one of the communicative functions of the methods section, that of providing a description of the methodology, materials and procedures (Swales & Feak 2012, 285).The methods section is emphasised in Computer Sciences, in particular, as it is "highly empirical" and adopts "a cumulative methodological path to build knowledge" (Choura 2019). Indeed, the hard disciplines rely more on experimental methods than the soft disciplines, which opt for discursive argumentation (Hyland 2009, 63). In this accord, the use of LAs is influenced by both the communicative moves to be fulfilled in this section and disciplinary variation.

Third, in the results and discussions section, LAs in Linguistics are twice as many as those in Computer Sciences, which is detected in the use of resultatives, adversatives and appositives, as shown in

figure 3. The following examples are extracted from the results and discussions sections in Linguistics:

> Example 8 (L,6): **Also**, industrial supervisors positively valued the level of communication competence among inters (M= 4.40)… **Finally**, … the internship experience with ISLT students businesses showed a positive attitude (M= 4.40)
>
> Example 9 (L, 1): These clausal patterns are, **however**, less frequent than phrasal ones, which may be related to the communicative functions of the RAG.

In example 8, LAs of addition and of enumeration are used to list and logically report the reached results. The results presented in example 9 are compared to previously stated ones through the use of LA of concession "however". The description of results supports the section's communicative purpose in which the findings are described, accompanied by commentaries and interpreted (Swales & Feak 2012, 285). Accordingly, LAs can serve as important tools to enumerate and highlight the contributions of the study. In this section, researchers in Linguistics tend to develop descriptive and argumentative texts to present results and findings since in this discipline "claims are accepted or rejected on the strength of argument" (Hyland 2009, 63).

Finally, the use of LAs in the conclusion section is not common. The adverbials used in this section are more frequent in Linguistics than in Computer Sciences. Additive LAs present the majority of LAs present in this section as they serve to introduce, enumerate and highlight results and findings. This section is compact and concise compared to the other sections, and hence researchers tend not to be elaborative and only provide highlights and summaries of their studies.

To conclude, the investigation of LAs in the sections of RAs sheds light on their role as tools to fulfil the communicative moves dictated by the genre. The role of LAs is important, first, in achieving the communicative function of the section and second, in validating the conclusions reached and persuading readers. LAs are highlighted not only as semantic links between different parts of the text but also as a means for researchers to strengthen their

claims and justify their findings. Peacock (2010) supports that LAs have supplementary functions and are important in RAs "as signalling and cohesive devices, and for helping authors manoeuvre effectively to make and/or to strengthen claims" (Peacock 2010, 31).

The comparative exploration of LAs in the sections of RAs in Computer Sciences and Linguistics has revealed that the use of these linkers varies in accordance to communicative moves with varying degrees of semantic emphasis across disciplines. Thus, the use of LAs in RAs is affected by genre constraints maintained by the set of communicative moves in the section and by disciplinary variation and the different research paradigms.

Conclusion

Summary of Findings and Pedagogic Implications

This study examines the use of LAs as cohesive devices in RAs written by Tunisian researchers in Computer Sciences and Linguistics as representatives of soft and hard sciences. The functions of LAs and their use in the different sections of the RAs have been investigated. General findings in the corpus show that LAs are frequently employed, with additive LAs constituting a majority. Looking at the use of LAs in both disciplines, the results support disciplinary variation attributed to the different research paradigms. The analysis of the distribution of the different functions of LAs in the RAs sections reveals that the use of these linkers goes beyond their semantic functions as it also serves in fulfilling the communicative moves of the sections. In sum, disciplinary and sectional distinctions in the use of LAs in RAs reflect the effects context, manifested in genre features and disciplinary variation, engenders on lexico-grammatical choices in academic writing.

These findings support the results presented by Abumelha and Alyousef (2019) who maintain that Arab scholars tend to overuse additive LAs and the findings presented by Peacock (2010) who stresses that such results can "help teachers of research writing inform learners of appropriate patterns" (Peacock 2010), especially in an EFL context. This aids academics to better manoeuvre linking devices and helps them not only to cohesively structure texts but

also to maintain the communicative moves and functions attributed to academic genres. Therefore, it is important that researchers, especially novice ones, consider the use of different adverbials (along other cohesive devices) as one tool to fulfil a genre's communicative purposes. Thus, the use of LAs should be focalised on in academic writing classes. Peacock (2010) further supports that "students must be told of the importance of context in using linking adverbials in research writing, and be told that awareness of their use is necessary" (Peacock 2010, 30). In regard to their importance in academic discourse, taking into consideration disciplinary variation and genre, the use of LAs can serve as a means to empower authors in the quest of composing cohesive academic texts.

Limitations of the Study and Future Research

Some limitations arose in the exploration of LAs in RAs in two different disciplines. One of the limitations of this study is the small size of the corpus. A larger corpus can induce more precision and can give more insights into the use of LAs in the chosen academic genre. The use of LAs can also be compared in relation to other cohesive devices to highlight the importance of cohesion in academic texts. Moreover, another limitation is the selection of the disciplines of Linguistics and Computer Sciences as the only representatives of soft and hard sciences. The selection of more disciplines within each paradigm can further highlight disciplinary variation not only between soft and hard sciences but also between disciplines within the same research paradigm. Additionally, generic features and their effect on lexico-grammatical choices can be more evident by adopting a comparative study compromising two or more academic genres. These aspects are to be taken into consideration to widen the spectrum of the study in future research.

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