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Local grammars and discourse acts in academic writing: A case study of exemplification in Linguistics research articles

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A B S T R A C T

Local grammar is an approach to linguistic analysis and explanation which seeks to account for one function or discourse act only. This study employs the local grammar approach to explore discourse acts that are frequently performed in academic writing and further discusses the pedagogical implications and applications of local grammars in EAP teaching, aiming to present an alternative approach to exploring and teaching academic writing. The study first demonstrates the applicability of local grammars in accounting for discourse acts in academic writing, by focusing on a case study of exemplification in Linguistics research articles. It then argues that the practice of local grammar analysis helps to further raise academic writers' awareness of the patterned nature of language in use, not only in terms of lexical-grammatical patternings, but also discourse-semantic patternings. Applications of local grammar research on discourse acts in EAP teaching are further discussed.

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1. Introduction

This study proposes a local grammar approach to explore discourse acts that are frequently performed in academic writing and further discusses the pedagogical implications and applications of local grammars in the teaching of English for Academic Purposes (hereafter EAP). Briefly, discourse acts in the present study refer to those rhetorical functions (e.g. contrasting, exemplifying) writers normally perform in academic writing; and local grammar is an alternative approach, as opposed to general grammars, to linguistic analysis which "seeks to account for, not the whole of a language, but one meaning only" (Hunston, 2002a, p. 178; Section 2). Local grammar research has been shown to be beneficial in several respects, in particular that local grammars are useful to account for discourse or pragmatic acts (e.g. Su, 2017; Su & Wei, 2018; Cheng & Ching 2018). Furthermore, local grammar descriptions capture both the lexical-grammatical resources and their associated discourse-semantic patterns, thereby offering an inventory of linguistic strategies available to language users to express specific meanings in communication (Su, 2018; Hunston & Su, 2019). This indicates that local grammars can be applied to account for discourse acts in academic writing and, further, that such research can have significant pedagogical implications and applications for EAP teaching. This paper, therefore, first demonstrates the applicability of local grammars in dealing with discourse acts in academic writing, which is exemplified with a case study of exemplification in Linguistics research articles.

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The pedagogical implications and applications of local grammar research in EAP teaching will be subsequently discussed. The overarching goal of the study is to present and demonstrate an alternative approach to exploring and teaching academic writing.

The rest of the paper is organised into six sections. Section 2 discusses the concept of local grammar and some methodological issues relating to local grammar research. Section 3 offers an overview of relevant studies on exemplification in academic discourse, suggesting the need to further explore exemplification. Section 4 introduces the corpus used for the current investigation and discusses how instances of exemplification are retrieved. Section 5 presents the local grammar analyses of exemplification, demonstrating the applicability of local grammars in accounting for discourse acts in academic writing. Section 6 discusses in detail the pedagogical implications and applications of local grammars for EAP teaching. Section 7 concludes this paper.

2. Local grammar

The concept of local grammar has been comprehensively discussed in, for example, Su (2017, 2018), Cheng and Ching (2018), and Hunston and Su (2019). As noted above, local grammar is an alternative approach to linguistic analysis. The differences between local grammars and general grammar lie in two areas. The first is that each local grammar focuses on one targeted meaning or discourse function only, rather than the language as a whole (Hunston, 2002b, p. 90). Second, local grammars use transparent and context-specific terminologies, rather than traditional grammatical ones (e.g. Subject, Object), to analyse corresponding formal elements (Butler, 2004, p. 158), thereby contributing to the transparency and specificity of the description. These make the local grammar approach particularly useful for dealing with discourse or pragmatic acts, as has been discussed in Su and Wei (2018).

Studies have employed the local grammar approach to account for, inter alia, definition (Barnbrook, 2002), evaluation (Hunston & Sinclair, 2000; Hunston & Su, 2019), disclaiming (Cheng & Ching, 2018), request (Su, 2017), and apology (Su & Wei, 2018). These studies have shown that local grammars can provide a more systematic and specialised description of the targeted discourse or pragmatic act. It is worth further noting that the resulting local grammar descriptions are more informative for language teaching, because it would be more useful to know an element in terms of its discourse or communicative function than in grammatical ones (see also Hunston, 2002b, p. 157). For the purpose of illustration, Tables 1 and 2 present examples of local grammar analyses of disclaiming and apology.

Two methodological issues concerning local grammar research are worth discussing, relating respectively to data retrieval and component labelling. Data retrieval refers to the identification of instances that realise the targeted discourse act (see also Barnbrook & Sinclair, 2001, p. 243; Hunston & Su, 2019, p. 571). In general, two methods have been used to identify stretches of discourse in previous local grammar research. The first is manual identification, as demonstrated in Cheng and Ching (2018) who manually identified instances of disclaiming in corporate discourse and developed a local grammar of disclaimers. The advantage of this method is that it practically guarantees the accuracy of instances identified (i.e. instances identified are associated with the targeted discourse act) and exhaustiveness (i.e. it can largely exhaust all the instances realising the targeted discourse act in a given corpus). The shortcoming of this method, like many other manual methods, is that the number of texts that can be examined is inevitably limited, because manual identification is time-consuming and labour-intensive. The second method is to search specific lexical items or semi-fixed, recurrent lexical-grammatical patterns (e.g. Hunston, 2002b, p. 90–91; Su & Wei, 2018; Hunston & Su, 2019). Su and Wei (2018), for example, retrieved utterances of apologies by searching a pre-determined set of lexical items in a corpus compiled of scripted language and further established a local grammar of apology. This method is robust for dealing with a large volume of texts, but the accuracy or recall may be relatively low, because it can only identify those instances which contain these pre-determined items or patterns. In sum, data retrieval relies heavily upon the fixedness or flexibility of the realisations of the targeted pragmatic or discourse acts. The more conventional or fixed the realisations are, the more likely data retrieval can be automated; otherwise, manual identification would be a better option for data retrieval.

As for component labelling, the primary task is the identification of a set of appropriate terminologies. With regard to identifying such terminologies, we suggest two guiding principles (see also Su, forthcoming 2020). The first is termed *The Principle of Transparency*, meaning that the terminologies used for a local grammar analysis should: 1) be proposed within the specific context of that chosen discourse act, and 2) explicitly reflect the semantic or pragmatic function of the linguistic element being analysed. In addition to *Transparency*, local grammar terminologies should be limited to a certain number, which we shall term it *The Principle of Economy*. We tentatively define it as the tendency to use a limited number of terminologies to achieve a relatively general and comprehensive description of language in use. An example to illustrate this is the term 'Specification' used in the local grammar analyses of apology (Su & Wei, 2018). 'Specification' was used to analyse those elements which specify the offense/reason for an apology or for forgiveness-seeking. Types of offenses, as discussed in

Table 1
Local grammar analyses of disclaiming (adapted from Cheng & Ching, 2018).

Claim carrier	Hinge	Nature of risks	Risks
Forward-looking statements	*involve*	*inherent*	*risks and uncertainties*

Table 2
Local grammar analyses of apology (adapted from Su & Wei, 2018).

Apologiser	Apologising	Specification
I	*apologise*	*for my earlier outburst*
I	*regret*	*not saying yes when you asked me to marry you*

Deutschmann (2003: 64), might be related to *accidents*, *mistake and misunderstandings*, *breach of expectations*, *lack of consideration*, *talk offenses*, *social gaffes*, *requests*, *hearing offenses*, and *offenses involving breach of consensus*. One may of course give each of them a term in the analysis. The problem, however, is that it will unnecessarily result in a large number of such terms and (over)complicate the analysis. Conforming to *The Principle of Economy* would help to solve this problem.

Overall, the two principles are useful for identifying terminologies for the practice of local grammar analysis, which helps to achieve a moderately comprehensive description of language use at an appropriate level of both generality and granularity (cf. Hunston & Su, 2019), as will be further shown in the present study.

3. Exemplification in academic discourse

Research has shown that there are a number of discourse acts which are frequently performed in academic texts but not in other genres. Paquot (2008), for example, points out that discourse acts such as summarising, comparing and contrasting, exemplifying, and concluding are frequently performed rhetorical functions in academic writing (see also Paquot, 2010). This paper focuses specifically on exemplification which refers to the discourse act of expanding or illustrating a proposition (which may be, for example, a theory, an observation, or an argument) or providing sufficient amount of detail to explain a superordinate category by, for example, presenting subordinate ones (cf. Hyland, 2007; Oliveira & Brown, 2016; Paquot, 2008).

Exemplification has been widely considered a prominent feature in academic writing. For example, Biber, Johansson, Leech, Conrad, and Finegan (1999) argue that presenting examples is much more frequent in academic texts than in other registers (e.g. conversation, fiction). Hyland (2007, p. 270) notes that exemplification is "a recurrent feature of academic writing and a central aspect of exposition, a part of the routine ways in which writers in all fields seek to make their ideas accessible and persuasive". Paquot (2010) has further shown that, compared with news, fiction, and speech, exemplificatory discourse markers are much more frequently used in academic discourse (see also Siepmann, 2005).

Indeed, exemplification plays a crucial role in academic writing. Connor and Lauer (1988), for instance, argue that examples and illustrations can build up connections between argumentation and the external world, which enhances the credibility and objectivity of findings presented in academic discourse. Hinkel (2004) points out that exemplification is essential for supporting a generalisation and for clarifying or explaining abstract concepts and, in a similar vein, Petrić (2007) states that exemplification contributes to supporting the writer's arguments by providing specific evidence. Furthermore, Hyland (2007, p. 270) notes that presenting examples helps to make an academic text "accessible and persuasive" and facilitates the writer-reader communication.

Given the high frequency of exemplification and the important role it plays in academic writing, studies, however, have shown that those writing within an academic context, English L2 or novice writers in particular, have difficulty using exemplification appropriately. For example, Hinkel (1999) finds that the rhetorical devices for objectivity (e.g. the use of examples, analogies) in Anglo-American academic writing are relatively less accessible to English L2 or novice writers. Hinkel (2004, p. 297) further argues that "[a]lthough giving examples represents a prevalent explanatory and thesis support strategy in constructing persuasive text in English, teachers and researchers have found that college-level L2 writers rarely employ this strategy successfully and in accordance with the guidelines identified in L2 composition instruction". Paquot's (2008) investigation similarly shows that English L2 writers' reservoir of exemplifying phraseologies are far more limited than their English L1 counterpart. This clearly indicates the need to further explore exemplification and its associated lexical-grammatical and discourse-semantic patterns in academic writing and, more importantly, how to present and teach linguistic realisations of exemplification to English L2 and/or novice writers.

It should be noted that there have been some studies which have explored the formal or lexical-grammatical realisations of exemplification. Hyland (2007), for example, has discussed how academic writers give examples to illustrate a proposition or a type/class etc. His discussion mainly focuses on academic writers' use of a range of metadiscourse items, which shows that exemplification is frequently signalled by a limited number of lexical items or, in his words, "exemplificatory markers" (Hyland, 2007, p. 270) (e.g. *such as*, *for example*, *e.g.*, *for instance*, *an example of*). Another study is Paquot (2008) which, focusing on five typical lexical items realising exemplification (i.e. *for example*, *for instance*, *example*, *illustrate*, and *exemplify*), examined the use of phraseologies of exemplification across English L1 and L2 writers' argumentative essays. Paquot (2010, p. 88−108) has further discussed exemplificatory devices and their roles in organising academic discourse.

The abovementioned studies in particular have well documented and discussed lexical items that are frequently employed to perform the discourse act of exemplification in academic writing. One potential limitation, perhaps, is that they may have not adequately accounted for exemplification at a higher level of generalisation or abstraction, i.e. at the discourse-semantic level. The present study, drawing on insights from previous studies, therefore employs a local grammar approach to account

Table 3
Exemplificatory markers and their raw frequency in CORAL.

Item	Frequency
e.g.	1211
such as	868
for example	771
illustrate	241
for instance	123
an example of	51
exemplify	45
an instance of	5
TOTAL	**3315**

for discourse acts in academic writing. We aim to show that local grammars not only allow us to explore discourse acts at the lexical-grammatical level, but also at the discourse-semantic level, and that such research has significant pedagogical implications and applications for EAP teaching and learning.

4. Corpus and methodology

For the current investigation we compiled a corpus of research articles of Linguistics (hereafter CORAL). The reason for focusing on Linguistics is mainly that writers in this discipline employ relatively more exemplificatory resources than writers of other disciplines, as shown in Hyland (2007). Additionally, because language use varies according to discipline (e.g. Biber, Conrad, & Cortes, 2004; Durrant, 2017; Hyland, 2008), restricting the data to one particular discipline allows us to avoid the issue of disciplinary variation. We collected those articles which are authored by English L1 writers and published in leading international journals (e.g. *Journal of Neurolinguistics*, *Journal of Second Language Writing*, *English for Specific Purposes*) within the period of 2000−2017; as such we are confident that the corpus is largely representative of how the discourse act of exemplification is typically performed in expert academic writing in Linguistics. The corpus consists of 133 texts, amounting to 947,964 words, and was uploaded to Sketch Engine (Kilgarriff, Rychly, Smrz, & Tugwell, 2004) for data processing.

As discussed in Section 3, previous studies have shown that instances of exemplification typically co-occur with a set of specific lexical items (e.g. Hyland, 2007; Paquot, 2008, 2010). Following these studies, we identified a set of lexical items and used them to search and retrieve instances of exemplification in CORAL. These items, with their raw frequency in CORAL, are shown in Table 3. It is perhaps worth noting that, while these are certainly not an exhaustive list of markers of exemplification,[1] searching these items, arguably, would allow us to retrieve a substantial set of prototypical instances of exemplification in any corpora, as these items have been shown to be typical exemplificatory markers. All the instances retrieved were then manually analysed from a local grammar perspective, filtering out those instances which do not realise the act of exemplification (e.g. *Can you give an example of how it has helped you to communicate better?*).

5. A local grammar of exemplification in CORAL

This section discusses briefly the analytic process and presents the results. As noted earlier, local grammar analysis involves the mapping of context-specific terminologies on to formal elements. The first step of the analysis is thus the identification of a set of appropriate local grammar terminologies for analysing instances of exemplification. Based on a preliminary study, we propose and explain succinctly the terminologies in Table 4. While most of these terminologies are quite context-specific and self-explanatory (e.g. 'Exemplified' refers to the proposition or superordinate category being illustrated or elaborated), some of them need to be discussed a bit further. The first is the term 'Hinge', the main function of which is to link different parts. In some cases there may be more than one element that can be analysed as 'Hinge'. For example, in *This role is exemplified in Spanish as follows*, strictly speaking both *is* and *in* realise 'Hinge'. To avoid overcomplicating the analyses, however, the whole prepositional phrase (i.e. *in Spanish as follows*) is simply analysed as 'Exemplification' (see also Hunston & Su, 2019, p. 577). Second, we made a distinction between 'Exemplifying' and 'Indicator' because the former is normally realised by performative verbs (i.e. *exemplify, illustrate*) whereas the latter by idiomatic expressions (e.g. *for example, such as*). Finally, the two terms in italics, i.e. '*Relevant study*' and 'Supporting *statement*', though they are not necessary for most instances, are useful for a finer-grained local grammar analysis of exemplification, as will be shown below.

When illustrating or elaborating a proposition or a superordinate category, our analyses suggest that academic writers usually first present their proposition or the superordinate category and then give examples for the purpose of illustration or exemplification, realising the pattern 'Exemplified + Indicator + Exemplification' (Table 5). What is worth mentioning is that

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[1] To exhaustively retrieve all instances of exemplification is indeed really challenging because exemplification is both a discursive and cognitive operative and in some cases there are even no lexical cues marking the function of exemplification is being performed (Siepmann, 2005, p. 113).

Table 4
Terminologies for local grammar analyses of exemplification.

Terminology	Explanation	Example
Exemplified	The proposition or superordinate category that is being illustrated, clarified, or elaborated.	their cohesive use is an instance of **the general principle.**
Exemplification	Elements that illustrate, clarify or elaborate a proposition or superordinate category.	… other social categories, e.g. **ethnicity and class** …
Exemplifying	The discourse act of illustrating or elaborating, mainly realised by performative verbs.	The following examples **illustrate** the different types of attempted paraphrases …
Indicator	Elements that signal the act of exemplifying.	**For example,** Phipps (2007) used qualitative measures to examine …
Initiator	Elements that introduce or initiate the act of exemplifying.	This account of change may be captured by Ohala's notion of hypo-correction (**see**, e.g., Ohala, 1993).
Researcher	The actor who performs the act of exemplifying.	**I** exemplify how semiogenesis data can also be gathered in graduate courses.
Hinge	Elements that link different parts.	This role **is** exemplified in Spanish as follows.
Relevant study	Existing studies that are used to illustrate an argument or point.	***Tinto (1993)***, for example, makes the disturbing finding that …
Supporting statement	Elements that serve to further support the illustration of an argument or point.	For academic listening tests, for example, ***there can be significant challenges in cases where …***

Table 5
Exemplification realised as 'Exemplified + Indicator + Exemplification'.

Exemplified	Indicator	Exemplification
Factors that have varied in previous studies of bilinguals	(e.g.	age of acquisition, language dominance, ratio of L1/L2 use)
… this phraseology is used to describe a set of experimental steps	as exemplified	in (16)
… indefinite nouns do occur with case particles	as illustrated	in examples (1), (2) and (3)
… to draw attention to important social features	such as	the language and hierarchical structure of such communities
These practices include	for example	the stance students convey towards their artefacts …
The relative importance of the various cues might change	for instance	it is likely that voice quality contrasts, which are less affected by tone-co-articulation, would have a higher …

Table 6
Exemplification realised as 'Exemplified + Exemplification + Indicator'.

Exemplified	Exemplification	Indicator
… could range from the use of a single word	(a lexical item produced in the L1 in the search for its equivalent in the L2	for example)
… is elicited with a task in which a test taker chooses answers from given alternatives,	as in multiple-choice tests	for instance

Table 7
Exemplification realised as 'Exemplification + Hinge + Indicator + Exemplified'.

Exemplification	Hinge	Indicator	Exemplified
The activity	is	an example of	a team (joint activity) in which an individual must coordinate her own linguistic, cognitive and practical actions
… their cohesive use	is	an instance of	the general principle whereby a superordinate item operates anaphorically as a kind of synonym

as exemplified and *as illustrated* here were considered idiomatic expressions, primarily serving the function of signalling the act of exemplifying, and as such they were simply analysed as 'Indicator'. An example is provided of each exemplificatory marker so long as it realises a given local grammar pattern, which applies throughout the analyses.

There are four variants of this pattern. One is those cases in which the 'Indicator', usually realised by *for example* and *for instance*, occurs at the end of a clause. In such cases *for example* and *for instance*, as noted in Paquot (2010, p. 91), function as endophoric markers and indicate that the exemplified and exemplification are presented before (Table 6). The other three cases are those in which there is a 'Hinge' linking different parts of the pattern, as shown in Tables 7—9. The peculiarity of the pattern 'Exemplified + Hinge + Indicator + Exemplification' (Table 9) is that in this pattern the 'Exemplification' is usually realised by existing studies (see also Tables 19 and 20).

Academic writers also use performative verbs (i.e. *exemplify* and *illustrate*) for exemplification. These verbs realise 'Exemplifying', indicating that the act of giving examples is being performed. Four patterns were identified in which

Table 8

Exemplification realised as 'Indicator + Exemplified + Hinge + Exemplification'.

Indicator	Exemplified	Hinge	Exemplification
An example of	hedging	would be	"you might want to make all your verbs past tense"
An instance of	this	can be seen	in example 2
As an example of	the subtleties involved	consider	the symbols [i] and [a] that were used in Fig. 1 …

Table 9

Exemplification realised as 'Exemplified + Hinge + Indicator + Exemplification'.

Exemplified	Hinge	Indicator	Exemplification
Beliefs have become the focus of an increasing number of studies in recent years	(see	e.g.	[Amuzie and Winke, 2009], [Ellis, 2008], [Kalaja and Barcelos, 2003] …)
… high proficiency writers switched more between their L1 and their L2 than low proficiency writers	(see	for example	Wang 2003)

Table 10

Exemplification realised as 'Exemplification + Exemplifying + Exemplified'.

Exemplification	Exemplifying	Exemplified
The introduction to Yoko's conference	exemplifies	Mary's opening in each conference
The examples below	illustrate	how writers in both languages use the role of 'I' as originator

Table 11

Exemplification realised as 'Exemplification + Hinge + Exemplifying + Exemplified'.

Exemplified	Hinge	Exemplifying	Exemplification
This role	is	exemplified	in Spanish as follows
These differences	are	illustrated	in Figure 1

Table 12

Exemplification realised as 'Researcher + Exemplifying + Exemplified'.

Researcher	Exemplifying	Exemplified
I	exemplify	how semiogenesis data can be gathered in graduate courses
We	… illustrate	each of these purposes

Table 13

Exemplification realised as 'Researcher + Exemplifying + Exemplified + Exemplification'.

Researcher	Exemplifying	Exemplified	Exemplification
We	illustrate	this point	with two examples of productive reduplication strategies

performative verbs are used to illustrate or elaborate a proposition or a superordinate category. Two of them are quite similar, as shown in Tables 10 and 11. We made a distinction between the two patterns because it helps to reflect the differences in their formal realisations, i.e. one is in active voice whereas the other is passive. This does not mean that the analyses are not consistent; on the contrary, this shows one advantage of local grammar analysis. That is, it captures both the syntactic and semantic/pragmatic aspects of language in use. It is also an advantage that allows the researcher to generalise linguistic expressions available to perform a given discourse act at a higher level of abstraction, i.e. at the level of discourse-semantics.

The other two patterns specify the actor, i.e. the one who performs the act of exemplifying. The actor is usually the author(s), as shown in Table 12. A slightly different variant is realised by instances where the 'Exemplification' is specified, as shown in Table 13.

The following two patterns involve an element labelled 'Initiator', i.e. the element which serves to introduce or initiate the act of exemplifying. The difference between them partly lies in the order of the terminologies 'Indicator' and 'Exemplification', as shown in Tables 14 and 15. Moreover, there might also be some syntactic constraint for the pattern 'Initiator + Exemplification + Indicator'.

For some instances of *for example* and *for instance* the local grammar analyses appear to be relatively more complicated. There are two levels of analysis. At a more general level, such instances simply realise the pattern 'Exemplified + Exemplification', with the preceding clause realising the 'Exemplified' and the following clause the

Table 14
Exemplification realised as 'Initiator + Indicator + Exemplification'.

Initiator	Indicator	Exemplification
… the voices must be distinctively different and easily identifiable,	e.g.	through gender or age
This might be done	for example	by examining the feedback that EAP writing instructors give to individual students
Being able to interact with the client is essential when	for instance	making decisions during an ascent because the client feels unable to carry on

Table 15
Exemplification realised as 'Initiator + Exemplification + Indicator'.

Initiator	Exemplification	Indicator
… present their current study	(by announcing the present research and indicating the structure of the article	for example)

Table 16
Exemplification realised as 'Exemplified + Exemplification (Relevant study + Indicator + Supporting statement)'.

Exemplified	Exemplification		
	Relevant study	Indicator	Supporting statement
… have begun to examine the effects of learner responses to feedback on language learning.	Mackey and Philp (1998)	for example	examined the relationship between immediate responses to feedback in the context of investigating….
Studies which have successfully administered a delayed post-test reveal mixed results.	Morrow (1996)	for instance	reported sustained improvement amongst ESL learners 6 months following instructional treatment of complaints and …

Table 17
Exemplification realised as 'Exemplified + Exemplification (Indicator + Relevant study + Supporting statement)'.

Exemplified	Exemplification		
	Indicator	Relevant study	Supporting statement
… some studies have suggested its explanatory power for L2 writing.	For example	Cumming (1989)	investigated the effects of L2 proficiency and writing expertise on L2 writing proficiency of …
… this literature highlight the important role of the listener in determining speech intelligibility.	For instance	Hayes-Harb et al. (2008)	Found that native English and native Mandarin listeners differed in their abilities to …

Table 18
Exemplification realised as 'Indicator + Exemplification + Supporting statement'.

Indicator	Exemplification	Supporting statement
As illustrated	in the following extract	Ben was one of the few students in our study that conformed to the advice from the instructors

Table 19
Exemplification realised as 'Exemplification + Indicator + Supporting statement'.

Exemplification	Indicator	Supporting statement
Hedging	for example	via modal auxiliaries may, could, can and so on, is a strategy used in academic discourse with the intention of …
L2 vocabulary size	for instance	did not make a unique contribution to writing in L2

'Exemplification'. At a more specific level, the clause realising 'Exemplification' can be further analysed. Our analyses suggest two patterns, which are presented in Tables 16 and 17 respectively.

There are some differences between the two patterns. In terms of local grammar analysis, the difference lies in the order of local grammar terminologies (i.e. whether it is 'Relevant study + Indicator + Supporting statement' or 'Indicator + Relevant study + Supporting statement'), whereas in terms of discourse effect, the difference is that the former is relatively more formal than the latter. Additionally, one might prefer the latter if s/he is citing a number of studies to support her/his argument (Susan Hunston, personal communication).

The next two patterns are realised by instances in which the 'Indicator' occurs either at the beginning or in the middle of the clause and the 'Supporting statement' occurs at the end. In consequence, the difference again lies in the order of local grammar terminologies, as shown in Tables 18 and 19.

Table 20
Exemplification realised as 'Hinge + Exemplification + Indicator + Exemplified'.

Hinge	Exemplification	Indicator	Exemplified
See	Lillis et al., 2010	for an example of	this practice

Table 21
Exemplification realised as 'Indicator + Exemplified + Hinge + Exemplification'.

Indicator	Exemplified	Hinge	Exemplification
For an example of	such a student project	see	Nickerson et al., 2005

The final two patterns are quite infrequent in our corpus. They involve the verb *see* and the exemplificatory marker *an example of*. It is perhaps worth mentioning that the verb *see* has itself been considered an exemplificatory marker in, for example, Paquot (2010). We, however, analysed *see* as 'Hinge' rather than 'Indicator' mainly because it usually co-occurs with another more typical exemplificatory marker (i.e. *an example of*), as shown in Tables 20 and 21. Moreover, *see* is more serving the function of linking different parts of the pattern than signalling the act of exemplification is being performed (see also Table 9).

In the above we have briefly discussed a local grammar analysis of exemplification in our corpus of research articles from the field of Linguistics. Based on the analyses, we further summarise all the patterns identified, with an example and quantitative information given of each (Table 22). It should be stressed again that the frequency of each pattern only applies to the current dataset and, further, that that the data would best reflect how exemplification is typically realised in Linguistics research articles.

As can be seen from Table 22, by far the most frequently attested pattern of exemplification is 'Exemplified + Indicator + Exemplification', in which writers usually exemplify or illustrate a superordinate category by presenting examples of subordinate categories or subtypes. Moreover, the analyses show that, although formal realisations of exemplification may be diverse, the semantic/pragmatic regularity may not be so. In other words, local grammars allow the researcher to explore the regularities, or phraseological tendency, of language in use at a higher level (i.e. discourse-semantic level) of generalisation. Overall, the analyses, as demonstrated above, show that local grammars would be useful for accounting for discourse acts in academic writing, offering a systematic and specialised description of the targeted discourse act (for example, 17 patterns were identified for 'exemplification'). We argue that the kind of discourse-semantic phraseological analysis presented above could have significant pedagogical implications and applications for EAP teaching (cf. Whiteside & Wharton, 2019), as discussed in more detail below.

Table 22
An overview of the local grammar of exemplification in CORAL.

Pattern	Frequency
Exemplified + Indicator + Exemplification e.g., *Some dictionaries, for example, The American Heritage Dictionary of English Usage …*	2544
Initiator + Indicator + Exemplification e.g., *Through triangulation of, e.g., interview and observational data …*	126
Exemplification + Exemplifying + Exemplified e.g., *The following examples illustrate the different types of attempted paraphrases …*	117
Exemplified + Hinge + Indicator + Exemplification e.g., *They have additionally been studied in other languages (see e.g. Dubois 1992 on French).*	86
Exemplification + Indicator + Supporting statement e.g., *In the pronunciation of the word 'boot' ([but]), for example, a speaker will begin to round their lips …*	80
Exemplified + Exemplification (Indicator + Relevant study + Supporting statement) e.g., *There are a growing number of articles that consider issues of membership categorization. For example, Roulston et al. (2001) use the term 'cocategorial uncumbency' to consider interviews where …*	73
Exemplified + Exemplification (Relevant study + Indicator + Supporting statement) e.g., *In particular, if an RAI lacks one move, it often seems to be Move 2. Jogthong (2001), for instance, analysed 40 RAIs in Thai journals in the educational and medical fields and found that 45% of these did not include a …*	69
Exemplified + Hinge + Exemplifying + Exemplification e.g., *The overall study design is illustrated in Figure 1.*	44
Exemplification + Hinge + Indicator + Exemplified e.g., *This proposed set of events may be an example of the development of autosegmental tonal patterning in a language.*	19
Initiator + Exemplification + Indicator e.g., *… the authors establish a territory (by making topic generalizations and giving background information, for example).*	14
Exemplified + Exemplification + Indicator e.g., *Chole is happy to intervene much more in work for publication, suggesting references for the authors to consult, for instance.*	9
Researcher + Exemplifying + Exemplified e.g., *we present an example of each below.*	8
Researcher + Exemplifying + Exemplified + Exemplification e.g., *We can illustrate the above with the English passive.*	7
Indicator + Exemplification + Supporting statement e.g., *As illustrated in examples (6) and (7), a referent can be 'unknown to the speaker' and yet could be 'referring' or 'non-referring'.*	6
Indicator + Exemplified + Hinge + Exemplification e.g., *An example of this mismatch can be seen in a brief review of three ESL reading textbooks from three popular textbook series.*	6
Hinge + Exemplification + Indicator + Exemplified e.g., *See Lillis et al. (2010) for an example of this practice.*	1
Indicator + Exemplified + Hinge + Exemplification e.g., *for an example of such a student project, see Nickerson et al. (2005).*	1
TOTAL	**3210**

6. Pedagogical implications and applications of local grammars in EAP teaching

Corpus studies have shown that there is a phraseological tendency or patterned nature of language in use (e.g. Hunston & Francis, 2000; Sinclair, 1991, 2008). Indeed, the importance of phraseologies or patterns in language teaching and learning has been increasingly emphasised by applied linguists (e.g. Wray, 2000, 2002, 2008; Hunston, 2002a; Lu, Yoon, & Kisselev, 2018; Martinez & Schmitt, 2012; Meunier & Granger 2008; Schmitt, 2004). What is noteworthy about local grammars is that they push the emphasis on phraseological/lexical-grammatical patterning towards an emphasis on discourse-semantic patterning, which further brings our understanding of text organisation and development to a new level. To be specific, traditionally, researchers and education practitioners consider text organisation and development in terms of patternings of lexical-grammatical forms; in contrast, research on local grammars allows us to understand text organisation and development from a relatively new perspective and at a higher level of abstraction: what we see in text is not just the strings of co-occurring phraseological forms but also strings of discourse-semantic patterns. This is important because "learning to read and write is learning to combine meanings and language resources in ways that allow learners to understand more efficiently the development of textual interaction and to use more effectively resources that characterize academic discourse" (Bondi, 2017, p. 43). The implication, then, is that the exercise of local grammar analysis can further help to raise academic writers' awareness of the phraseological or patterned nature of language in use, not only in terms of lexical-grammatical patternings, but also discourse-semantic patternings.

The findings of local grammar research are directly applicable to EAP teaching in a number of ways. The first would be that each local grammar offers an inventory of lexical-grammatical resources, paired with their discourse-semantic patterns, available to academic writers to perform specific discourse acts in academic writing (cf. 'a thesaurus-like constructicon' in Hunston & Su, 2019). For example, the present study has first identified the lexical items and then their associated discourse-semantic patterns that are typically used for the purpose of exemplification. The inventory, especially the discourse-semantic patterns, would be useful for EAP teaching, because this means that EAP instructors do not necessarily have to teach all the diverse linguistic expressions; instead, it allows them to teach language in use at the discourse-semantic level, reducing both teaching and learning load.

Furthermore, frequency of each pattern can be quantified in local grammar descriptions (see Table 22), indicating the degree of typicality of each pattern. This in turn offers insights for 'what to teach'. For example, EAP instructors can primarily start with those more typical patterns but also pay some attention to those less typical ones. This, on the one hand, informs academic writers of the typical ways for performing a given discourse act. On the other hand, the teaching of those less frequent but also appropriate expressions would contribute to enlarging academic writers' repertoire of linguistic resources for performing that given discourse act (cf. Hinkel, 2004). Moreover, Coxhead (2008) raised the question as to how do we know that we are teaching the phraseological units that learners need to know. In addition to Coxhead's (2008) suggestion of looking at academic word lists or lexical bundles, we suggest also looking at those phraseological sequences which are typically used to perform a given discourse or rhetorical function.

Overall, it can be argued that the inventory of lexical-grammatical resources and the discourse-semantic patterns, with the quantitative information given of each, offered by local grammars could be one way to address the issue relating to "the availability of the phraseological information" (Granger & Meunier, 2008, p. 248) for the teaching and learning of phraseology. This would "ultimately help to establish phraseology as a central component of language pedagogy" (Groom, 2005, p. 273).

Following the above discussion, a question raised is how in practice can local grammars be applied in EAP classrooms. We suggest that local grammars offer an alternative perspective for developing EAP teaching materials, with academic writers in general as the targeted readership. On the one hand, material writers can apply local grammars into the development of EAP coursebooks in a principled manner and, on the other hand, instructors of academic writing can themselves attempt to incorporate the findings of local grammar research into do-it-yourself EAP teaching materials. Since each local grammar is concerned with one function or discourse act only, each unit of, for example, a coursebook can be devoted to the teaching of one targeted function or discourse act. In other words, the local-grammar-informed teaching materials will be designed to facilitate the teaching of how to perform specific discourse acts in academic writing. One challenge, which should be mentioned though, is that those acts that are frequently performed in academic discourse need to be identified first. Possible solutions for this can be either to refer to those rhetorical functions discussed in Paquot (2010, p. 83) or to those discussed in Morley (2017). It is arguable that such teaching materials can supplement existing EAP coursebooks and better equip academic writers, English L2 and novice writers in particular, with the ways to perform appropriately discourse acts in academic writing.

To further illustrate how local grammars can be incorporated into EAP teaching materials, in the following we present a sample coursebook unit and briefly discuss the content of each section in it, using 'exemplification' as an example. The unit might be organised as follows.[2]

Section I. Introducing exemplification

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[2] It should be noted that we only outline the major sections of a sample coursebook unit which, in practice, need to be further adapted. In other words, what is outlined here should be considered a guideline, rather than a script, for the development of local-grammar-informed EAP teaching materials. This would also offer some insights into the development of do-it-yourself EAP teaching materials.

In this section the targeted discourse act is introduced and its rhetorical effect(s) discussed. For example, exemplification is a discourse act that elaborates or illustrates a proposition (which may be, for example, a theory, an observation or an argument) or a superordinate category, so that readers can understand more easily what has been said.

Section II. Data retrieval

This section is mainly concerned with how instances realising the targeted discourse act can be retrieved from a corpus. In the case of exemplification, because it has been shown to be frequently realised by a set of lexical items (e.g. *for example*, *for instance*), a substantial subset of instances of exemplification can be retrieved by searching these items in a given corpus, as demonstrated in the present study. For other discourse acts that are frequently performed in academic writing, data retrieval depends upon how conventionalised or fixed the realisations of the targeted discourse act are.

Section III. Local grammar analysis

This section allows learners to practice the local grammar analyses of the instances retrieved, helping them to get hands-on experience (see above for the local grammar analysis of exemplification). Once the learners have become familiar with this kind of analysis, they can work on analysing either independently or collaboratively other discourse acts.

Section IV. Summarising the discourse-semantic patterns

In this section learners are asked to summarise and generalise patterns at the discourse-semantic level, such that they do not have to memorise all the diverse lexical-grammatical realisations of a given discourse act (for the discourse-semantic patterns of exemplification see Table 22). This in turn provides learners an inventory of lexical-grammatical resources and their associated discourse semantic patterns, so that more choices would be available to them to perform a specific discourse act in academic writing.

Section V. Exercise

This section allows learners to further practice the local grammar analysis. It provides leaners with a chance to further interact with more data, knowing better the context in which a given discourse act is usually performed and, thus, how to perform that discourse act more appropriately in academic writing.

In this section we have discussed in detail the pedagogical implications and applications of local grammars in EAP teaching. We argued that the practice of local grammar analysis helps to raise academic writers' awareness of the patterned nature of language in use, not only in terms of lexical-grammatical patternings, but also discourse-semantic patternings. For pedagogical applications, we pointed out that local grammars offer an inventory of lexical-grammatical forms and their associated discourse-semantic patterns to academic writers, thereby enriching their linguistic choices for meaning-making. We further discussed and presented a sample coursebook unit to showcase how local grammars of discourse acts can be applied to derive EAP teaching materials. All these would suffice to indicate that research on local grammar of discourse acts is useful for, and can be applied in, EAP teaching in particular and perhaps English language teaching in general (cf. Su, forthcoming 2020).

7. Conclusion

This study has proposed a local grammar approach to account for discourse acts that are frequently performed in academic writing, and has demonstrated the viability of this approach via a case study investigating exemplification in a corpus of research articles in the field of Linguistics. The study has shown that local grammars can be a valid alternative to explore discourse acts in academic texts and that such research has significant pedagogical implications and applications for EAP teaching (e.g. raising academic writers' awareness of the patterned nature of language in use; developing local-grammar-informed EAP teaching materials). Seen in this light, it is arguable that the proposed local grammar approach can be further considered a methodological innovation for exploring and teaching academic writing.

Having said the above, the study is certainly not without limitations. In addition to having restricted the discipline to Linguistics, the discussion has only focused on one discourse act in academic writing. While the study has suggested that local grammars, theoretically, can be applied to explore all kinds of discourse acts in academic texts, there might be some challenging issues for different discourse acts. For instance, data retrieval might be a challenge especially for those discourse acts whose realisations do not contain any markers. Secondly, although we have presented a guideline for developing local-grammar-informed EAP teaching materials, how can it be operationalised in practice remains inadequately discussed. Lastly, while the study has argued that local grammars can be useful for EAP teaching, the extent to which they can be effective in EAP classroom has been left unexplored. All these point to directions that are worthy of future investigation. We thus look forward to more studies adopting the proposed local grammar approach to explore other discourse acts in academic writing across various disciplines and further applying the findings into the practice of EAP teaching.

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