

Data-driven Learning: Aiming at the Bigger Picture

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Abstract

There has been increasing interest in corpus-based teaching of rhetorical features in academic writing at the discourse level (Chen and Flowerdew 2018; Dong and Lu 2020; Moreno and Swales 2018). In line with this tendency, this paper explores the potential of using corpus tools in teaching rhetorical elements of academic writing and considers the ways in which wider aspects of academic writing can be addressed through the use of corpora, for example rhetorical moves in argumentation and counter-argumentation, authorial presence, evaluating an argument and problem–solution patterns. The paper places specific emphasis on practical suggestions for tasks and activities, locating these practical applications within the framework of existing corpus research. The tasks are based on the use of several corpus tools, Lextutor concordance, SkELL, BNC-English corpora and MICUSP. They are targeted at upper-intermediate and advanced second language learners—senior undergraduates, postgraduates and researchers—and can be used across multiple disciplines.

Keywords: data-driven learning; rhetorical functions; academic writing

1. Introduction

The classroom use of concordancers is based largely on the principle of Data-driven Learning (DDL, Johns 1994) and discovery or serendipity learning (Bernardini 2000), one of the main principles of which is that students discover linguistic information for themselves using corpus consultations. Corpus consultations help ‘to develop the ability to see patterning in the target language and to form generalizations to account for that patterning’ (Johns 1991). The use of concordancers can help clarify the meanings and usage of words by providing multiple contexts; they allow learners to explore typical collocations of keywords and patterns of recurrence in order to make informed word choices. Unsurprisingly, therefore, corpus methods have been used primarily in teaching vocabulary. However, some scholars have expressed concern that

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such practice overlooks the opportunities afforded by DDL in addressing the ‘big themes’ of language teaching (Boulton 2007; Charles 2011a: 27; Hunston 2002: 184), one of which is academic discourse studies. There is a large body of research connecting corpus methods with academic discourse. Two collections, *Discourse on the Move: Using Corpus Analysis to Describe Discourse Structure* (Biber, Connor and Upton 2007) and *Academic Writing: At the Interface of Corpus and Discourse* (Charles, Pecorari and Hunston 2009), are dedicated to using corpora in analysing and teaching of academic discourse. Within academic discourse studies, rhetorical writing, or writing argumentatively and persuasively, has an important place. Persuasion is achieved through rhetorical functions such as persuasive forms of argumentation, evaluative writing, authorial involvement in the discourse, degree of commitment to the statements made and engaging in a dialogue with the reader. Rhetorical choices are connected to linguistic choices, and language features are consistently used by academic writers to realise particular rhetorical functions. The use of a corpus can draw students’ attention to linguistic realisation of rhetorical functions and enhance ‘rhetorical consciousness-raising’ (Lee and Swales 2006: 58). Charles (2007, 2011a) and Flowerdew (2009) advocate using a corpus in teaching rhetorical elements of academic writing, looking at correlation between lexico-grammatical patterns and specific rhetorical functions (Charles 2011a). Corpora were used in the analysis of various rhetorical aspects of academic writing, for example, discipline-specific rhetorical moves (Anthony 1999), the problem–solution rhetorical pattern in professional and students’ writing (Flowerdew 2003); and doctorate thesis literature reviews (Flowerdew and Forest 2009). Other studies examining corpus consultations in teaching rhetorical features were carried out by Li et al. (2018) and Poole (2016), and some examples of corpus-based tasks aimed at raising students’ awareness of rhetorical features of academic writing can be found in a resource book by Karpenko-Secombe (2020).

Even though there is an increase in the number of studies exploring the use of corpora at discourse level, the main focus of corpus consultations is still lexical or lexico-grammatical (Charles 2011a; Cobb and Boulton 2015), and integration of lexico-grammatical corpus consultations with higher-level rhetorical enquiry is still lacking (Ádel 2010; Charles 2007; Swales 2002). This paper attempts to address this gap and suggests practical activities helping to connect surface forms with

discursive meaning in teaching. It offers a rhetoric-informed approach to corpus-based classroom study of lexico-grammatical features in academic writing: corpus materials are used to introduce learners to rhetorical features typical for academic writing and to develop students' awareness of the role rhetorical features play in a discourse.

One of the barriers to using corpus consultations in everyday teaching practice is the lack of 'off-the-shelf' materials for teachers which would help avoid time-consuming preparation (Vyatkina and Boulton 2017; see also Karpenko-Seccombe 2018). This paper, therefore, contains practical suggestions of useful tasks that can be integrated into lessons as hands-on classroom activities, as teacher-led demonstrations or by way of paper handouts if pressed for time or lacking in digital resources in the classroom. The tasks are not intended as a comprehensive guide to using corpora in teaching academic rhetoric. It is hoped that suggested activities will be used creatively by the practitioners in conjunction with existing resources to enhance teaching of rhetorical phenomena with corpus-based tasks and examples. The teaching could start with raising students' awareness of a particular discourse function and then proceeding to specific linguistic patterns associated with it, as advocated by Charles (2007). However, this paper also contains examples of another pathway, which starts with observing a lexical or grammatical pattern and encouraging students to link it to the rhetorical function it performs.

The paper is structured as follows. The next sections of the Introduction provide a brief description of the context in which the tasks discussed here were developed, and an overall description of the tasks, followed by a section describing the corpus tools used in the paper. Section 2 addresses the use of corpora in presenting an argument following the basic rhetorical moves of argumentation and counter-argumentation. It includes corpus tasks connected with outlining the importance of the field, identifying the research gap or a problem and presenting one's own research. Section 3 considers the ways in which corpus consultations can be helpful in teaching rhetorical patterns of counter-argumentation.

1.1 Background

The tasks presented in the paper were developed for my particular cohort of students: post-graduate research (PGR) students (PhD and masters by research). These are mostly L2 speakers of English in mixed-discipline groups of upper-intermediate and advanced level, which generally varies

between an overall IELTS score of 6.0 and 7.0, as is consistent with the entry requirements in different doctoral and master's courses throughout the university. Students typically attend the courses as and when they need support in a particular aspect of academic writing and are also prompted to attend particular courses after the compulsory assessment at the beginning of their studies; they can also be referred by their supervisors if they notice a particular problem in their students' writing.

PGR students are taught in small groups of up to a maximum of twelve students in a series of short, non-compulsory and non-credit bearing courses (2-4 sessions, 3-6 hours) covering a variety of topics, for example, *Academic Writing Style, Argumentation and Critical Writing, Writing Literature Reviews, and Writing Introductions*. In these and many other courses I use various corpus materials and searches. There is also a specifically corpus-oriented course *Improve Your Academic Writing with Corpora* (4 sessions, 6 hours). Corpus consultations are also used in one-to-one tutorials where appropriate. The tasks discussed here were specifically developed for the courses *Argumentation and Critical Writing* (4 sessions, 6 hours) and *Writing Introductions* (2 sessions, 3 hours). These courses are run every term—that is, three to four times a year.

In the first part of the *Argumentation and Critical Writing* course, students are introduced to the fundamentals of argumentation. The final practical part of the course involves corpus consultations which allow students to recognise rhetorical functions behind language patterns. As a follow-up task, students are asked to write in their own time an introductory argumentative piece on the topic of their research which would comprise the moves discussed during the course. Students are then given an opportunity to book a one-to-one tutorial to discuss their work. Classes are taught in a computer lab which gives students an opportunity to try out 'hands-on' use of corpora.

1.2 Activities

The corpus consultations discussed here can be integrated into similar courses on academic writing with a focus on rhetorical features. They can be used as a supplementary resource to enhance learning (as, for example, in Yoon and Hirvela 2004) or as the main focus of a lesson (see Charles 2011a; Lee and Swales 2006). The tasks can be used as 'hands-on' assignments in computer labs or adapted for use outside labs 'on paper'. For instance, discussion of counter-argumentation moves (see examples

13–15 in section 3), or tasks on the recognition of lexical and semantic sharing (see examples 6–9 in section 2.3.1) can be easily used as paper tasks. Some suggested searches can also be used by teachers for a quick demonstration of a particular phenomenon on the screen, for example the importance of giving reasons and supporting value judgements (see Figure 5 in section 2.1.1) or Chart results (BNC-English corpora), comparing the use of boosters in different genres (see Figure 18 in section 2.4.2).

Rhetorical functions are, of course, related to disciplinary conventions. Several corpus tools could be useful for teaching multi-discipline student groups. Lextutor Concordancer offers a choice of subject-specific corpora, search results in the British Academic Written English (BAWE) (see section 1.2.1) can be sorted by discipline and the Michigan Corpus of Upper-level Student Papers (MICUSP) can be searched in one or more of sixteen specialist subjects (see section 1.2.4).

Many tasks are based on independent exploration, but they also lend themselves to group work. In my lessons I most commonly ask students to conduct searches in pairs or groups, inviting them to report their results back to the class or to compare results with another group. For many tasks the class can be split into two groups: one group takes a guess at answering the task question and the other uses concordances. The groups then compare their results and discuss which concordance searches were used. Teachers can then demonstrate the searches on a screen. Generally, any task involving concordance searches can be preceded by asking the class to come up with an answer relying only on their intuition. Their intuitive answers can then be checked using concordancers.

To sum up, the activities presented in this paper are based on my experience of teaching rhetorical functions to small groups of PGR students in courses about *Argumentation and Critical Writing* and *Writing Introductions* in which I follow the general structure of rhetorical moves of argumentation and counter-argumentation, although teachers can choose between these and similar tasks and/or corpus tools and the delivery methods—hands-on or demonstration on the screen. I have chosen activities that generally work for my students and I hope that they provide potential for being used in other contexts and other classrooms where teachers will make them work for their context. They can be used for teaching upper-intermediate and advanced levels of students in the writing courses with a particular focus on rhetorical structure across multiple disciplines.

1.3 Corpus tools

The activities suggested in this paper are based on the use of several free online corpus tools, Lextutor concordancer, SkELL, BNC-English corpora and MICUSP, which are briefly introduced below.

1.3.1 Lextutor Concordancer

Lextutor Concordancer is a small part of the Compleat Lexical Tutor¹, a multi-faceted web-based data-driven language resource for second-language learning, developed by Tom Cobb of the University of Montreal. This corpus tool provides a variety of academic corpora for searching: Academic General (6 million words), Academic Abstracts (174,000 words), British Academic Written English (BAWE, 8 million words) and a selection of subject-specific sub-corpora of the British National Corpus (BNC): Medical, Commerce, Humanities, Law and Social Sciences. Law students will find the British Law Reports (BLaRC, 8.85 million words) useful for exploring legal vocabulary. Thus, Lextutor allows discipline-specific queries which can be useful for students from different subject areas. Lextutor Concordancer allows teachers to choose the most appropriate corpus for the needs of their students either by discipline or level: BNC corpora and Academic General contain expert texts, whereas BAWE is a corpus of university students' writing.

KWIC (Key Word In Context) Searches are easily conducted by following a simple procedure, demonstrated in Figure 1:

1. Enter the word you are looking for
2. Enter the form of word to look for (starts, ends, family, etc)
3. Choose the corpus for your search
4. Decide whether you need to sort the results alphabetically on the right or left from the keyword
5. Press 'Get concordance'
6. There is also a useful option to search a keyword with another 'associated word'; the concordance displays the lines in which both words are used.

¹ <https://www.lextutor.ca/>

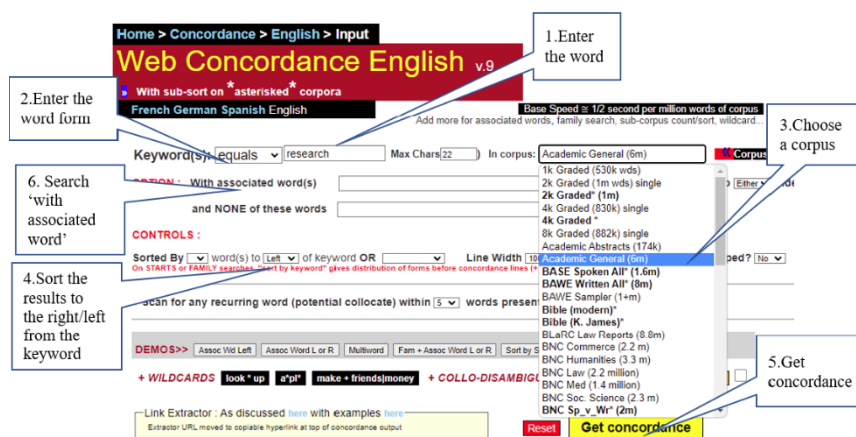


Figure 1. An overview of Lextutor concordancer features

Due to the variety of available corpora in different subject areas and subject-specific sorting of the results in Lextutor, BAWE, is well suited for discipline-specific searches in mixed-discipline groups.

1.3.2 BNC-English corpora

BNC-English corpora² is a corpus tool created by Mark Davies; it uses the British National Corpus (BNC), originally created by Oxford University Press; it contains 100 million words, with a generic academic sub-corpus of 15 million words.

The BNC-English corpora site offers a variety of tools and features (list, chart, collocates, compare and KWIC), as shown in Figure 2. Each of these tools presents corpus data in a different way. In this article I refer to the KWIC, Collocate and Chart tools. As in Lextutor, a KWIC search in BNC-English corpora shows the context in which the word occurs by displaying a series of concordance lines. The results are colour-coded to make parts of speech more obvious, for example, nouns are turquoise, verbs are magenta, and prepositions are yellow (see, for example, Figure 8 in section 2.1.2). A Chart search allows us to compare word frequencies in texts of different genres: academic, spoken, fiction, etc. It can be very useful for quick demonstrations by the teacher of differences in distribution of a particular word in different genres. A Collocate search

² <https://www.english-corpora.org/bnc/>

shows lists of words that most frequently co-occur with the keyword. It has the particularly useful feature of part-of-speech collocate searches; it can be used for quick searches of collocates followed by tasks about comparing the strengths of particular lexical items.

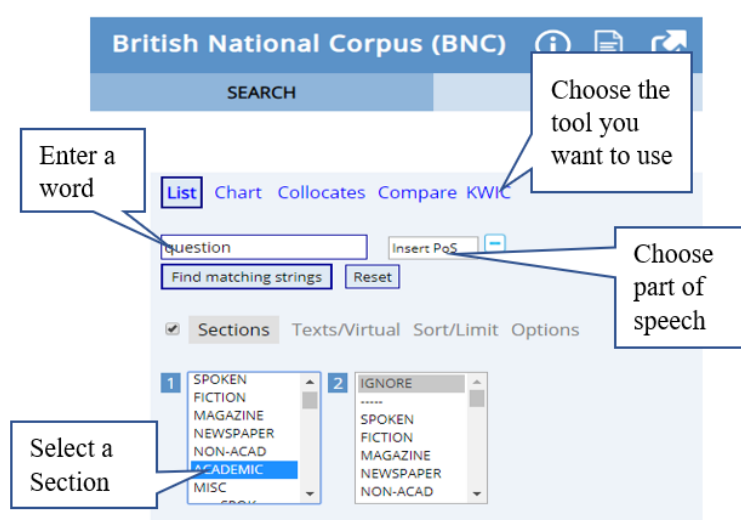


Figure 2. An overview of BNC-English corpora features

1.3.3 SkELL

SkELL³ (Sketch Engine for Language Learning) is a very user-friendly search engine that allows you to see lists of words co-occurring frequently in SkELL's own corpus containing over 1 billion words of texts from the British National Corpus, Wikipedia, and various websites. It is, therefore, not academic. The Word Sketch tool in SkELL presents search results according to their functions in a sentence: for example, in Figure 3 there are collocates of *research* as a subject, as an object and a selection of modifiers used with the noun *research*.

³ <https://skell.sketchengine.eu/>

Choose part of speech

Enter a word

Choose Word Sketch

research

Examples Word sketch Similar words

research noun Show context

verbs with research as subject		verbs with research as object		adjectives with research	
1. suggest	research suggests that	1. conduct	research conducted	1. ongoing	research is ongoing
2. show	research shows that	2. fund	fund research	2. assistant	as a research assistant to
3. focus	research focuses on	3. undertake	undertake research	3. underway	research is underway
4. indicate	research indicates that	4. do	doing research	4. interdisciplinary	research is interdisciplinary
5. reveal	research reveals	5. publish	published research	5. conclusive	research is conclusive
6. demonstrate	research demonstrates	6. focus	research focused on	6. preliminary	
7. find	research found	7. support	support research	7. thorough	research is thorough,
8. examine	research examines	8. need	research is needed to	8. relevant	research relevant to
9. involve	research involving	9. perform	perform research	9. online	research online
10. aim	. The research aims to	10. pursue	pursue research	10. collaborative	
11. support	research supports	11. sponsor	sponsored research	11. inconclusive	research is inconclusive
12. confirm	research confirms	12. pioneer	pioneering research	12. on-going	
13. investigate	research investigates	13. promote	promote research	13. descriptive	
14. identify	research has identified	14. apply	applied research	14. timely	
15. prove	research proves	15. continue	continuing research	15. necessary	research is necessary to

modifiers of research		nouns modified by research		words and	
1. scientific	scientific research	1. project	research project	1. development	research and development
2. further	further research	2. institute	research institute	2. education	research and education
3. Recent	. Recent research has	3. finding	research findings	3. teaching	research and teaching
4. extensive	extensive research	4. paper	research papers	4. analysis	research and analysis
5. market	market research	5. university	research university	5. study	research and study
6. cancer	cancer research .	6. center	research center	6. innovation	research and innovation

Figure 3. An overview of SkELL features

Collocates of *research* as a verb can be found by clicking on the part of speech option and selecting ‘verb’. SkELL, similarly to Collocate search in BNC-English corpora, produces lists of collocates which can be used for quick reference. The option ‘Examples’ provides 40 randomly chosen complete sentences featuring a search term or combination of search term and collocate.

1.3.4 MICUSP

MICUSP⁴ (Michigan Corpus of Upper-level Student Papers, 2009) is another useful resource containing 829 A grade papers (about 2.6 million words) of University of Michigan graduate and senior undergraduate students which can be searched by student level, discipline, paper type or textual features. Word search results are presented not in a concordance form but within the larger context of a paragraph containing the keyword. It also has a feature showing the distribution of the search term across disciplines in the corpus (see Figure 4). MICUSP gives students a unique opportunity to access whole sections of academic papers or even complete papers which contain the search term, in 16 different subject areas. This is particularly valuable in multi-disciplinary classrooms.

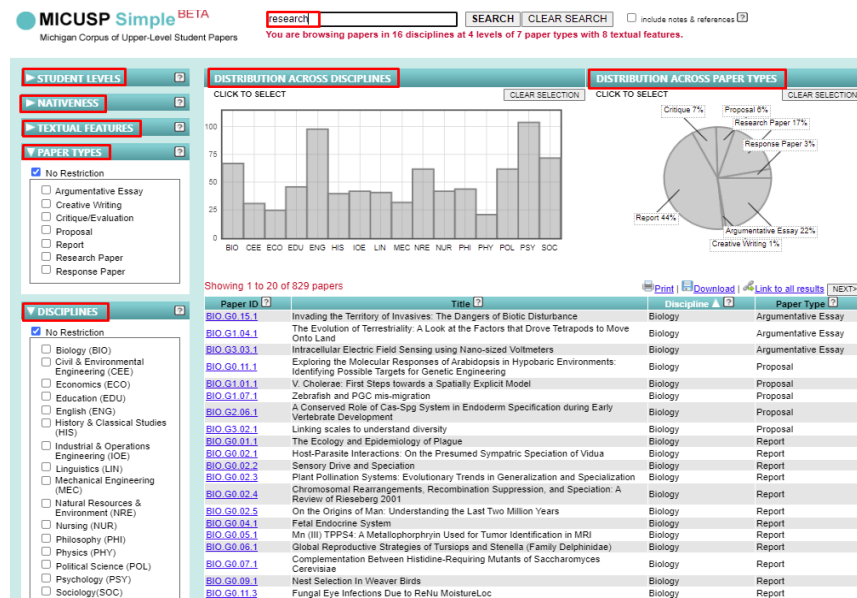


Figure 4. An overview of MICUSP features

Rhetorical functions typically manifest themselves in units larger than sentences, and this has implications for pedagogical strategies. It is often important to draw students' attention to extended contexts in Lextutor or BNC-English corpora in addition to investigating collocations or

⁴ <http://micusp.elicorpora.info/>

concordance lines. Consulting MICUSP provides an excellent opportunity to explore entire pieces of academic writing of a particular genre and discipline and can be useful for contextualising corpus searches.

The sections to follow look at how corpus searches using these tools can enrich teaching rhetorical functions.

2. Rhetorical moves in argumentation

Argumentation has long been considered one of the fundamental skills of academic writing. ‘Argument’ is defined as ‘the sequence of interlinked claims and reasons that, between them, establish content and force of the position for which a particular speaker is arguing’ (Toulmin, Reike and Janik 1984: 14). In the established model of argumentation, a writer puts forward an idea or makes a claim, formulates his/her own position and provides evidence in support of the claim and position. Typically, the writer also needs to consider counter-arguments and assess them carefully. Clear and logical argumentation is commonly seen as one of the main prerequisites of an academic text. Nevertheless, Wingate’s (2012) research shows that students often have no clear idea of argumentation and, therefore, there is a need to explain the concept in the course of academic writing. ‘Moves’ can be defined as ‘rhetorical instruments that realise a sub-set of specific communicative purposes associated with a genre’ (Bhatia 2006: 84).

Here I look at the way corpus consultations can reinforce students’ understanding of essential introductory moves for presenting an argument. An introductory part of a research paper or thesis lays the foundation of the argument that runs through the whole piece of writing and typically contains three main moves:

1. Establishing the area of research with an emphasis on the importance of the topic and references to previous research in the field.
2. Establishing a gap in knowledge or problem to be solved.
3. Presenting the writer’s own research (Swales and Feak 2009).

Even though these moves may have some disciplinary and genre variations (see, for example, Anthony 1999; Parkinson 2013), students need to be aware of the general principles of argumentation and of specific linguistic choices which will help them to write academically acceptable texts (Hyland 2019). Corpus materials can provide effective support for teaching these rhetorical moves.

2.1 Move 1: Establishing research territory

2.1.1 Establishing the importance of the field

Establishing the importance of the research field and the chosen topic is a common starting point in the presentation of an argument. As mentioned above, teachers can start by introducing students to the main tenets of argumentation, illustrating it with examples from a corpus. Alternatively, they can begin with a corpus search and ask students to link it to rhetorical structures.

Taking the latter approach, it is logical to start by investigating the adjective *important* which is, according to Hyland and Jiang (2016a), the most common attitude marker across such disciplines as applied linguistics, sociology, electrical engineering and biology. It offers a positive evaluation with the assumption that it is also shared by readers, and has the additional benefit of being ‘difficult to challenge’ (Hyland and Jiang 2016a: 262). Several searches can illustrate typical collocations of *important* to be used in this initial stage: *important + area, aspect, attribute, barrier, catalyst, cause, changes, characteristics, component, concept, consequences, considerations*, etc. (Lextutor, BAWE: sort to the right).

Statements of importance are prone to overgeneralisation in novice L2 writing (Gleason 1999; Takao and Kelly 2003), which can stem from the different rhetorical conventions adopted in different academic cultures (Hinkel 2005; Hyland and Milton 1997); *important* is an adjective of wide semantics, and, even though it is very frequent in academic writing, it can sound generic and imprecise. That is why I draw students’ attention to strong patterns such as *important as: important as a guide, as banding technique, as a source of evidence*, etc. In discussing the function of the pattern students usually agree that it makes the statement of importance more precise which, in its turn, brings to their attention the necessity of wording their arguments in a precise way. I also ask students to think about the effect of another common pattern *important and*, as in: *important and attractive to customers, important and beneficial, important and controversial, important and influential, important and relevant*. Students are then asked to explain what specific meaning is achieved by using the pattern *important and + adjective* and suggest their own examples.

I also ask students to think about reasons why the pattern of the collocation of *important* and *because* appears to be strong and recurrent. The search in Figure 5 highlights writers’ preference for supporting their

evaluative statements; it illustrates a two-step rhetorical procedure employed by proficient writers across disciplines (Lextutor, BAWE displays the disciplines on the right): a statement of importance followed by explanation of reasons.

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communication with this organisation is IMPORTANT because it means that we can receive in [agriculture]
nce the stability of institutions is IMPORTANT because it mitigates the uncertainty inv [economics]
vention." The Optional Protocol is IMPORTANT because it offers persons with disabilit [law]
ders input. To a shareholder this is IMPORTANT because it shows how effectively the com [engineering]
ms and questionnaires. This study is IMPORTANT because it tried to incorporate all the [psychology]
hetics of historiography' has become IMPORTANT because its modernity was 'defined by it [history]
vidently the controlling function is IMPORTANT because much of its implications are evi [sociology]
pistemic modality, Palmer's model is IMPORTANT because of its attempt to achieve cross- [linguistics]
localisation of pie-1 is incredibly IMPORTANT because of its function and ability to r [biology]
bility". This notion is particularly IMPORTANT because of the fear that commissioners m [law]
s assert that the flow is relatively IMPORTANT because of the low level of education. B [law]
picture. Principles were especially IMPORTANT because of the role they played in judic [law]
y to cope in everyday life which was IMPORTANT because of their responsibilities to pro [sociology]
face be the same or similar. This is IMPORTANT because often is the case that the lead [chemistry]
". This last pronoun is particularly IMPORTANT because otherwise, the sense of the sent [english]
ts. Payroll cost ratio is relatively IMPORTANT because payroll constitutes a high cost, [hospitality]
certainty and transparency. This is IMPORTANT because prospective applicants need to b [law]
akes the current OS type clear. It's IMPORTANT because some pre-compilation instruction [computer_sci]
ogram on a cluster etc... It is very IMPORTANT because some problems and difficulties h [computer_sci]
odate it. Designing for evolution is IMPORTANT because the business environment is fick [computer_sci]
tands for Hope. Yet, the shape is as IMPORTANT because the circle is the figure of harm [english]
ation of the term 'noble savage' was IMPORTANT because the common denominator was the [history]
olutions remains constant. This is IMPORTANT because the electrode measures the activ [chemistry]
nion arrived. Enlightenment was also IMPORTANT because the ensuing political, legal and [history]
ssible for warfare'. State power was IMPORTANT because the loss of independence results [history]
e of what was going on, that was not IMPORTANT because the matrices were giving the wri [physics]
m particular words. This can be very IMPORTANT because the meaning of a sentence can be [health]
'. The break-down of Acetylcholine is IMPORTANT because the nerve impulse being a trans [chemistry]
ts and social and legal rules. It is IMPORTANT because the new ethics we need in order [law]
on of the mirror. The slow motion is IMPORTANT because the optical path length only nee [physics]
duce the Azumaya algebras which are IMPORTANT because the relationship mentioned above [mathematics]
role of the West became increasingly IMPORTANT because the weak central Qing government [history]
ertising research is perceived to be IMPORTANT because there is no point dedicating lar [business]
0) However, institutions can also be IMPORTANT because they also provide a number of b [politics]
chemical changes. Some of these are IMPORTANT because they change those characteristic [food_science]
ter-institutional relations are also IMPORTANT because they define the power balance be [politics]
The annual accounts statements are IMPORTANT because they indicated users what assets [engineering]
rt. Indexicals and demonstratives are IMPORTANT because they seem to resist any attempt [philosophy]
oqueville recognises associations as IMPORTANT because they uphold the importance of th [sociology]
or inactivation by heat treatment is IMPORTANT because trypsin inhibitor works by block [food_science]

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Figure 5. Statement of importance + reasons (Lextutor, BAWE)⁵

There are several follow-up activities. For example, students conduct a search in BNC-English corpora (Academic section, Collocates) looking for adjectival collocates of *because*; the aim of this task is to reinforce the pattern of supporting value statements. In another follow-up activity, students run a search in Lextutor (sorting to the left) and focusing on adverbs like *critically*, *crucially*, *extremely*, *highly*, *increasingly*, *greatly*.

⁵ Larger screenshots are provided to show the consistency of a pattern; however, in case of overly long patterns the screenshots were cut and represent a sample of a pattern; few concordance lines mean that there is only a small number of examples in the corpus.

This is an opportunity to discuss boosters, their place in academic writing, and the danger of overusing them. L2 writers, particularly the weaker ones, tend to express a higher degree of certainty by using a significant number of booster expressions (Hyland and Milton 1997: 195), such as superlative forms. To highlight this issue, I ask students to run a simple search for *the most* in Lextutor (see Figure 6). Such statements are typically hedged by the use of *perhaps*, *even*, *among*, *probably*, *amongst*, *arguably*, or in phrases like *is considered to be*, *were proving to be*, *is likely to be*, *seems to be*, *appeared to be*, the function of which is usually clear to the students: academic writers try to avoid absolute statements signalled by *the most*. Superlative degree also appears in quotes or in statements attributed to others. Students are asked to explain this rhetorical strategy of moving the responsibility for an overgeneralised statement away from the author, e.g., *considered by many Afro-American literary scholars to be the most, from Stevenson's point of view would be the most*.

red by many Afro-American literary scholars to be THE MOST glamorous and productive period for Afro-
 roa, the ability to be social is considered to be THE MOST important and valued characteristic of hu
 s which, from Stevenson's point of view, would be THE MOST rational. It is essentially a matter of 1
 sacrifice of an animal at the altar is said to be THE MOST fundamental element in religion. A sacrif
 selves, and then to respond to what appears to be THE MOST significant part of each complex sequence
 st common. Causation, conversely, is likely to be THE MOST interesting, but it is also the most diff
 t that it was seen as the basis of what was to be THE MOST dramatic change in the history of mankind
 tent - increasingly elsewhere, were proving to be THE MOST economically active. Public - sector hous
 terrible savage in the beginning, turns out to be THE MOST noble character in the novel. Many writer
 tion in terms of psychoanalysis. This seems to be THE MOST coherent position to hold. It does allow
 u valley, Nepal, population density appears to be THE MOST fundamental control on the chemistry of s
 ual engagement with these areas, seem to me to be THE MOST fruitful. Freedom and Manipulability In t
 wentieth - century distinctions may not always be THE MOST sensitive instruments for understanding t
 part of Shetland which has been expected to bear THE MOST immediate social and economic changes rel

Figure 6. Concordance search on *the most* in Lextutor

Similarly, a search on *the most important*, sorting to the left of the keyword can draw students' attention to multiple ways in which this phrase is often qualified in academic writing: *among*, *one of*, *perhaps*, *probably the most important*. Figure 7 shows collocates of the phrase *the most important* in BNC-English corpora in order of frequency:

HELP		FREQ	ALL	%	MI	
1	<input type="checkbox"/> ONE	497	291900	0.17	3.63	
2	<input type="checkbox"/> PERHAPS	148	33306	0.44	5.01	
3	<input type="checkbox"/> PROBABLY	79	26239	0.30	4.45	
4	<input type="checkbox"/> FAR	78	39147	0.20	3.86	
5	<input type="checkbox"/> AMONG	39	22155	0.18	3.68	
6	<input type="checkbox"/> ARGUABLY	12	621	1.93	7.13	
7	<input type="checkbox"/> POSSIBLY	11	6974	0.16	3.52	
8	<input type="checkbox"/> UNDOUBTEDLY	9	2320	0.39	4.82	
9	<input type="checkbox"/> AMONGST	9	4401	0.20	3.89	
10	<input type="checkbox"/> REGARDED	8	6851	0.12	3.09	
11	<input type="checkbox"/> POTENTIALLY	5	2391	0.21	3.93	

Figure 7. Collocates search on *the most important* in BNC-English corpora

As with the Lextutor search in Figure 6, this search demonstrates that 9 out of the 11 most frequent collocates of the phrase *the most important* are mitigating premodifiers: *one [of]*, *perhaps*, *probably*, *among*, *arguably*, *possibly*, *amongst*, *potentially*. *Regarded* is also a marker of qualification, meaning that it is not the author who uses the superlative degree, he/she just reports the existing view (for more on hedges and boosters, see section 2.1.2). I introduce these searches to students before they embark on a writing task as a part of several courses, in particular *Argumentation and Critical Writing*, and *Writing Introductions*.

2.1.2 Introducing and reviewing previous research

As a part of the first rhetorical move, writers need to briefly review existing scholarship on the topic. Some initial simple tasks students do is generate lists of reporting verbs by searching SkELL, Lextutor or BNC-English corpora using the keywords *researcher/s*, *scholar/s*, *author/s*, *critic/s*, *opponent/s*. For example, a search on *scholar* in SkELL shows that it is used with the following verbs: *believe*, *argue*, *debate*, *disagree*, *consider*, *study*, *interpret*, *suggest*, *dispute*, *question*, *agree*, *accept*, *note*, *reject*; *researchers* in BNC-English corpora collocates, for example, with *find*, *believe*, *conclude*, *discover*, *suggest*, *attempt*, *show*, *report*. Students are asked then to discuss in groups the differences between the verbs in

terms of their strength—strong, weak or neutral—and consider what verbs they could use to refer to previous research in their area.

In reviewing existing research, students often have difficulties in engaging with other authors’ arguments. The next task has an aim of exploring the ways writers present the arguments of other authors by running a search in BNC-English corpora (KWIC) or Lextutor using *this argument* as a keyword, as shown in Figures 8 and 9.

its inability to compete abroad . By the late 1890s	this argument	had become	much harder to sustain . Leadin
se capacities . There is a dangerous circularity about	this argument	if it begins	from the assumption of differer
in particular circumstances ; The difficulty about	this argument	is that ; if it is accepted , there is no scope	
king to Garry Newbon. (SP:PS3B9) Frank what about	this argument	that is going on	about the free kick that was
se is the cause . Platt does not fully accept	this argument	He is also sceptical	or the argument that pi
the time of birth . The court did not accept	this argument	It noted	that adjustments are permitted in
payable in the liquidation . The judge did not accept	this argument	He said	that it was clear that payment by a
filling a long felt want . I do not accept	this argument	in the years	immediately following the war
, which Dr McNab claimed was so deadly ; Against	this argument	Dr McNab 's tiresome	statistics could not ho
observe how they played a game ; But with all	this argument	contrived for	his own reassurance and for r
d that the latter made a critical difference ; Although	this argument	was also rejected	the somewhat superficial i
necessary for the recognition of word meanings ; and	this argument	was used in	the experiment by Underwood.
the specified criteria are met ; The rationale behind	this argument	is that the criteria	are consistent with the cri
so there needs to be a way forward to break	this argument	The way that we 've found it	in this this yea
only one area did the coalition succeed totally ; but	this argument	was a double-edged sword	: Lloyd George h.
ss and widespread homelessness and vagrancy ; but	this argument	is not borne	out by research . The Team for
affect the question of access to the court ; But	this argument	assumes	that there is some value in separat
'dom meant . To say that Lanfranc was convinced by	this argument	would be an understatement	: he seems to l
courts as the interpreter . I am not impressed by	this argument	The law ; as I have said , is to be	
commodating political change will not be induced by	this argument	Desperately deprived groups	do not organi
limal respond to sunrise and sunset ? Notice that by	this argument	such changes are	initiated from outside the
data at a sufficiently disaggregated level to confirm	this argument	but it is	consistent with the data that are av
and belief . The Vendor may then wish to counter	this argument	and limit the warranty	by stating precisely w
My Lords erm I do n't propose to erm develop	this argument	further this afternoon	. The Noble Earl has s
was the first . to my knowledge ; to develop	this argument	John Urry and I then broadened it and tran	
actices advocated as policy are based ; ; We develop	this argument	and an analysis	of the ' good primary pract

Figure 8. BNC-English corpora, KWIC search on *this argument*

Simmel 1968 24 cited in Sherman 1970 126) THIS ARGUMENT links to the inability of a strong a [sociology] involvement schemes (Cunningham 1996). THIS ARGUMENT is reinforced by the findings of the [business] t in that sense (see also Weber 2000). THIS ARGUMENT is advanced by Marginson and Sisson [business] ity. (Carricaburu and Pierret, 1995: 301) THIS ARGUMENT reveals the way in which, rather tha [sociology] being, period)." (Van Cleeve, 1999 p. 5) THIS ARGUMENT appears to be condemning all Idealis [philosophy] aw (Hart Publishing, Oxford 1997), at 60. THIS ARGUMENT is adopted from P Cane, The Anatomy [law] things be removed." (Kant, 1787 p. 89). THIS ARGUMENT relies on the presupposition that we [philosophy]), p. 244. Gottfried, Black Death, p. 94. THIS ARGUMENT is paramount in presenting the Black [history] her in favour or only against an action. THIS ARGUMENT is essentially based on examples whe [philosophy] mit (n / 2)f(0). Dirichlet then adjusted THIS ARGUMENT to accommodate functions which were [mathematics] ntroduce change. Storey (2005:4) advances THIS ARGUMENT by illustrating: [Employees] have, i [business] is utterly indivisible." [3] Once again THIS ARGUMENT is aimed at demonstrating the differ [philosophy] and is able to judge correctly. But again THIS ARGUMENT is by no means free from criticism. [philosophy] ideologies were interconnected although THIS ARGUMENT rests partly on subjective interpret [archeology] 2001: 207; Perles, 1992: 125). Although THIS ARGUMENT at first instance appears convincing [archeology] Washington is filled with corruption, and THIS ARGUMENT has a renewed legitimacy with the cu [politics] is important in the knowledge economy and THIS ARGUMENT leads to a contradiction within the [business] ories, identities, cultures and...myths'. THIS ARGUMENT is grounded in the belief that such [politics] ed and controlled by the elite appealing. THIS ARGUMENT could be criticised by the fact that [classics] ing of the organised workforce approach.' THIS ARGUMENT is also present in Hall's analysis w [business] ficult to state this was a solid trend as THIS ARGUMENT is based on assumption as opposed to [history] objects. We shall now show the assumption THIS ARGUMENT is based on before passing on to con [philosophy] d how a state cannot shield itself behind THIS ARGUMENT when the state itself is the perpetr [law] gime. However, a good example that breaks THIS ARGUMENT is the recognition of arbitral award [law]

Figure 9. Lextutor, BAWE KWIC search on *this argument*

Students are asked to look through the collocates of this argument and to identify verbs and phrases signalling different critical ways in which the authors engage with the arguments in the previous research, for example, *to accept/not to accept, to be convinced by, to counter, to confirm, to develop, to reject, to advance, to adjust, to adopt this argument*. These verbs and phrases raise students' awareness of different rhetorical functions when discussing the arguments in previous research.

The next task reinforces this awareness. Students are asked to look through concordance lines and the larger context and find examples in which the arguments from previous research were used:

- To support one's claim
- To signal acceptance of another author's argument
- To refute a previous argument
- To evaluate an argument
- To show flaws in argumentation

If the group needs more scaffolding, the following or similar examples are given for students to identify their rhetorical function:

- There's no reason to refute this argument* (Lextutor, Academic General)
- I would reject this argument as calculated to undermine* (BNC, Academic)
- This argument is based on assumption as opposed to sufficient*

evidence (Lextutor, BAWE)

Though not without merit, this argument is weaker here (BNC, Academic)

This argument can be invoked to support (Lextutor, Academic General).

An aspect of engagement with existing research is evaluating the arguments. The use of evaluative vocabulary, hedging and boosting, is an essential element of stance (Hyland 2016). In choosing the appropriate strength for presenting their arguments, writers need to strike the right balance between arguing convincingly and exercising a certain degree of caution (Hyland 2002). This is a challenging balance to achieve but awareness of attitudinal language can help, and such awareness can be built through corpus consultations. A typical activity for understanding academic evaluation which I use is finding evaluative language in an academic corpus, classifying it into strong and weak, or positive, neutral and negative, and reflecting on what language will be appropriate for the students' own argument. Hedging elements include mitigating adjectives, adverbs of possibility and frequency, attitude verbs and nouns.

One possible activity is a search for adjectival collocates of *argument* in Lextutor (BAWE, General Academic corpora), or BNC-English Corpora (KWIC), sorting the results to the left of the keyword. SkELL can also be searched for evaluative adjectives used with *argument*. The search, followed by further teacher-facilitated discussions in groups should make it clear which adjectives are positive (*coherent, valid, conclusive, compelling, ample*), negative (*lengthy, fragmented, flawed, circular*) or neutral (*chronological, current*). Such adjectives play an important part in expressing the author's stance when presenting an argument.

Below are several examples from MICUSP of how writers present their own and other authors' arguments. Students can be asked to find instances of evaluative writing in MICUSP and look at the ways writers support their evaluations.

- (1) While an account of stress patterns based in part on morphological structure is promising, care must be taken not to construct a ***circular argument*** of the type which Schütz warns against, such that accent defines the word. Because there is no good etymological dictionary of Hawaiian, ***claims about***

internal structure must be made with caution, although there are many clear-cut cases. (Linguistics, LIN.G1.05.1).

- (2) The introduction highlights the significant influence of flow regime on lotic habitats and stresses its important influence on the system's biological diversity. However, an *argument* for maintaining biological diversity is *less explicit*. (Natural Resources and Environment, NRE.G1.22.2).
- (3) This specific *argument* is *very useful because* it allows one to show empirically that exploitation is occurring, and allows one to mathematically see the degree of exploitation for certain workers. This systematic demonstration is *far more powerful* than merely asserting that exploitation is present (Sociology, SOC.G2.03.2)

A follow-up task would be to connect the evaluative vocabulary in the extracts with the rhetorical functions they perform. For example, in (1) the writer warns against circular argumentation and making sweeping claims; in (2) an adjective is used for mild criticism; in (3) the argument is presented strongly and positively in comparison with the arguments of others.

2.2 Move 2: Establishing a gap in the knowledge or problem to be solved

2.2.1 Establishing a gap in the knowledge

The next move, the move of identifying the research gap, typically follows an overview of previous research and contrasts with it. The contrast is commonly signalled by *however*; which, according to Feak and Swales (2011), is the most common connector used to introduce the gap. In order to demonstrate the transition between moves, students search *little research* with associated word *however* in Lextutor or use the BNC-English corpora Collocate tool, as shown in Figures 10 and 11.

001. rganize an enterprise's IT activities. However, LITTLE RESEARCH has been directed at the process ♦

002. However, these communities are relatively new and LITTLE RESEARCH has been conducted to determine th

003. ting was carried out at dispersed homes. However, LITTLE RESEARCH has been carried out on the quanti

Figure 10. *little research + however* in Lextutor, Academic General

001. □ social competence (Yip J, 2005). However, there is LITTLE RESEARCH that focus on the role of humour a psycholo..
 002. □ of an acute psychotic episode. However, there is LITTLE RESEARCH on the aetiology, course, prognosi medicine
 003. □ more than dissimilar sounding words. However very LITTLE RESEARCH has been published testing the eff psycholo..

Figure 11. *little research + however* in Lextutor, BAWE

By clicking on the keyword students can see the larger context and explore typical transitions between moves, as shown in examples (4) and (5) from Lextutor, BAWE.

- (4) Many studies have tested the effect of different types of speech on recall, but most focus on the effect of phonologically similar or dissimilar words on the number of items recalled, (Boyle, 1996). Results suggest that interference from background speech which is similar sounding disrupts working memory more than dissimilar sounding words. **However very little research has been published** testing the effects of semantically similar (related meaning) words as a distractor to memory.
- (5) A high association between sense of humour and better psychosocial adjustment has been found in cancer patients (Dowling J, 2003). Also, research indicated that positive humour style was positively associated with social competence (Yip J, 2005). **However, there is little research** that focuses on the role of humour and its relationship with intercultural adjustment.

Next, students conduct corpus searches connected with the rhetorical move of introducing a gap in previous research or establishing an existing problem. The starting point is concordance searches of *little research* (see Figure 12), *little attention* and *few studies* which introduce students to salient language features associated with this rhetorical pattern. The search terms *little research*, *little attention* or *few studies* are easily recognisable by my students as connected with introducing the research gap, but students are also asked to inspect verbs introducing the gap, or focus on the tense form and reflect on the reason why the present perfect tense is consistently used when writing about a knowledge gap. Students are also asked to note the adverbs used (*remarkably*, *relatively*, *comparatively*, *surprisingly*) and to identify the rhetorical functions they perform.

of the printed word: " a field where very little research had been done ; " (Locke 1974 : " 121)	little research	had been done
ms were addressed . In the first place , since little research had taken place outside London , we chose to investigate a	little research	had taken place outside
ean children in British schools , remarkably little research has actually been done to study the linguistic behaviour of	little research	has actually been done
curriculum is to be based on research ? Very little research has been carried out or teaching methods and the effectiveness	little research	has been carried out or
mography of the developed world relatively little research has been carried out in relation to the corresponding (i.e.	little research	has been carried out
ame group of pupils on different occasions ; little research has been carried out or consistency of performance on similar	little research	has been carried out or
carried out at dispersed homes ; However ; little research has been carried out on the quantities of wood required . An	little research	has been carried out
vely small quantity of imported wares ; Very little research has been carried out on domestic wares and it remains far from	little research	has been carried out
that has attracted the most attention ; Very little research has been carried out on the functions of domestic pottery ; there	little research	has been carried out
r less easily . As she points out ; Remarkably little research has been carried out on the question of how these filters operate	little research	has been carried out
round for close on two hundred years , very little research has been carried out either to attempt to understand how it work	little research	has been carried out
ore likely . # Improving co-operation # Very little research has been conducted to discover how the barriers to effective	little research	has been conducted
elping children adjust to parental epilepsy # Little research has been conducted in the needs of children who have a parent	little research	has been conducted in
ession in the labour market ; Yet surprisingly little research has been conducted into the subject , at least in Britain .	little research	has been conducted into
n draw on this experience in their teaching ; little research has been done in the area . Using techniques developed during a	little research	has been done in
they would be best advised to consult ; Very little research has been done on the literature guides and only one on their	little research	has been done on
ten relapse after coming under stress ; Very little research has been done into its cause among adolescents and adults . As	little research	has been done into
spite the Gulfs long history of oil pollution ; little research has been done on the long-term impact on marine life there .	little research	has been done on
For example , Spears (1982) states that little research has been done on the cost of rehabilitation of severely eroded	little research	has been done on

Figure 12. *little research* in BNC-English corpora (KWIC)

2.2.2 Showing that the research area is problematic

Not unlike introducing the gap, a problem is also introduced by adversative sentence connectors *however* or *nevertheless* (Swales and Feak 2009). Charles (2011b) also noted the key role of *however* in signalling the problem in academic texts; it is commonly used to introduce the main point the writer is making (Biber et al. 1999)

A search on *problem* in association with *however* in Lextutor Concordancer (Academic General corpus: see Figure 13) or BNC-English corpora, collocating with *however* (Academic section: see Figure 14) is followed up with an activity based on investigating the larger context. It helps students to connect the rhetorical discursal pattern of presenting a problem and its linguistic realisation. Students are asked to select phrases which can be useful for writing about a problem in the context of their research, for example:

- However, the central problem remains*
- There is, however, a persistent problem*
- However, it is in X that the major problem lies*
- However, the problem can by no means be dismissed*
- However, it does highlight the major problem*
- a special and limited problem*

ect causal interaction between them. *however*, the **PROBLEM** is that, if this is true, there is nothing friend, Claudianus Mamertus. Again, *however*, the **PROBLEM** is a matter of style as much as one of subve science" - in the current jargon. *however*, the **PROBLEM** at the cognisance level is to describe how al languages, *however*, were a special and limited **PROBLEM**. Except to some extent in the Habsburg ter ot universal and unchangeable. There is *however* a **PROBLEM**, if one is trying to do both these things ies by housing associations. *however*, the central **PROBLEM** remains - cities may have lost segments of initial hypotheses. There is, *however*, always the **PROBLEM** of knowing whether the fault in the mediat h such programmes there is, *however*, a persistent **PROBLEM** of renewal of connection with the classroo pes of birth control. *however*, the overpopulation **PROBLEM** remains today, with the United Nations pre To the anthropologist *however* the myth provides a **PROBLEM** of meaning because in the context from whi arded as problematic. It is, *however*, largely our **PROBLEM**, rather than that of many societies which ornamance. *however*, it is in reading that the major **PROBLEM** of achievement lies. Reading and writing a from standard English"). There is, *however*, some **PROBLEM** in this last comparison, since family inco *however*, while this tells us how not to solve the **PROBLEM**, it is less clear what positive steps we a sm and the victory of individualism. *however*, the **PROBLEM** can by no means be so readily dismissed. A fruitful. There remains, *however*, an interesting **PROBLEM** of definition. In the case of processes, t s can have a merely cosmetic effect, *however*. The **PROBLEM** is that egalitarian feminist method, like ng them as a social problem. *however*, the way the **PROBLEM** has been constructed and made the subject many children. *however*, it does highlight a major **PROBLEM** that we have so far not considered - some iminal tendencies. Sometimes, *however*, there is a **PROBLEM** in distinguishing "learning" theories beca criminology. *however*, this hardly helps with the **PROBLEM** of retributive justice, of which Beccaria increasing importance. At this time, *however*, the **PROBLEM** was almost certainly one of finding outlet

Figure 13. *problem* + *however* in Lextutor, Academic General

CLICK FOR MORE CONTEXT			EXPLORE NEW FEATURES	SAVE	TR
1	BP2	W_ac_tech_engin	criticality, conflict or indeed a combination of these problem types. However , one problem type will normally be dominant. The raw mat		
2	BP2	W_ac_tech_engin	a highly iterative process and consists of a number of stages from problem sensed to problem overcome. However four main stages ma		
3	BP2	W_ac_tech_engin	. Problems may involve complexity, criticality, conflict or indeed a combination of these problem types. However , one problem type will r		
4	CA4	W_ac_tech_engin	. Since $x = 1 = 34$ in P1/LP0, the corresponding BFS does not solve problem 0. However , any feasible integer solution must satisfy (deleted:)		
5	EES	W_ac_tech_engin	and represents approximately 500,000 words from each of the 10 superfields. However , the problem does not end there, since within ea		
6	APN	W_ac_polit_law_edu	between and were savagely pruned back. Constant supervision of seedling trees was also a problem . However , this technique was bette		
7	B2P	W_ac_polit_law_edu	words retentis tibi hortis meis into a trust. Even then, however , the problem remains that there is no instruction to Maevius in favour of:		
8	B2P	W_ac_polit_law_edu	, and this is why the two nurses apply for a third each. The problem , however , is that the appointment of a curator in a will is a		
9	CLW	W_ac_polit_law_edu	as equal partners in the attempts both to investigate and find solutions to the GIST problem . However , very few of the teachers even rec		
10	CMB	W_ac_polit_law_edu	the difficulty of examining a process as complex as that of mass communication. The problem is, however , that to examine their 'impact'		
11	FA3	W_ac_polit_law_edu	employment-oriented; in our terms, from general to generic courses. However , the problem is to what extent the unemployment proble		
12	FAM	W_ac_polit_law_edu	teacher effectiveness. No one would deny the value of this. There is another problem however . This time the difficulty lies not in the tern		
13	FDD	W_ac_polit_law_edu	patient, but can seek to persuade him to alter that decision. However this problem will usually arise at that time when this can not be do		
14	FP2	W_ac_polit_law_edu	balance between production for present consumption and growth. There is, however , a problem with this theoretical account, which is tl		
15	F55	W_ac_polit_law_edu	fact result' -- as a basis for future development of the law. The problem remains, however , of how this should be implemented. One pos:		

Figure 14. *problem* + *however* in BNC-English corpora

The statement of a problem needs, like any other claim, to be supported. Academic writers commonly use adverbials of result or inference to connect the claim they are making to the evidence they are providing (Biber et al. 1999). Research into framing *problem* in professional and students' writing shows that in the corpus of professional writing 95% of the tokens for *problem* were used in the causal context, whereas in the student corpus this was only 32% (Flowerdew 2003).

The search in Lextutor on the noun *problem* using the option ‘with associated word’ *problem* within 10 words on both sides shows the pattern of co-occurrence (see Figure 15). When asked to explain this pattern students show understanding of the necessity to provide reasons for addressing a particular problem. A follow-up activity may involve looking into an extended context of the pattern.

argeoisie. However, in the short term there was a **PROBLEM** because economic development led necessari
 ment itself. By the end of it all the mind - body **PROBLEM** will loom large - but this may be because
 allocation, because child abuse is such a complex **PROBLEM** we have not developed sufficient understand
 attending council tenants) do not face such a cost **PROBLEM** because rents are low (1988 average with #
 original. But " originality" presents a difficult **PROBLEM** because (unless you are doing advanced res
 b) it you see. A: Yes it's - er - it's an enormous **PROBLEM** actually because as soon as you start to m
 is" on p. xii.) (16) I found my drink was a great **PROBLEM** with them because () at that time I drank
 ally obtained, because of losses. Here the great **PROBLEM** is to try to decide if the non - responden
 mania. There was undoubtedly seen to be a growing **PROBLEM** regarding adolescent girls because they we
 sology" or knowledge. Perhaps this is because his **PROBLEM** is not a sociological one; he is engaged i
 long acknowledged but regarded as an intractable **PROBLEM** because its archaeological invisibility. A
 ishing to combine data in these ways, but a major **PROBLEM** arises because GIS packages fail to offer
 s what is asked because of the overall management **PROBLEM**. It is important for the parent to realize
 ng at B and allowing search, this is not a memory **PROBLEM** in any simple sense because the infant wil
 chicken under refrigeration is becoming a minimal **PROBLEM** because of constantly improved sanitation
 the nature of the problem, because it is not one **PROBLEM** but many. Electronically created data has
 logy fails to be useful because of an overarching **PROBLEM** in his claim to have transcended the probl
 ss would be called away to advise on a particular **PROBLEM** or situation. Because of the way in which
 classification is a challenging image processing **PROBLEM** because shapes can occur in any position,
 datza, 1964, called the "embarrassment of riches" **PROBLEM**). This is because they relied on features
 the days of Balfour and Bonar Law. The security **PROBLEM** remained acute, not least because the Roya
 was female sexuality that constituted the social **PROBLEM**, because through it the race was perpetuat
 reduce an overestimate of prevalence because some **PROBLEM** drug users will be known to two or more ag
 sentences in the imperative form.) In text b the **PROBLEM** of interpretation arises because of not kn

Figure 15. Search results for *problem* in Lextutor, Academic General

Similarly, *therefore* and *so* are both used in developing an argument around a particular problem. Thompson (2001: 58) highlights the importance of textual clues for readers in following the development of an argument and notes that *therefore* and *so* ‘can be seen as assuming a question on the lines: “What is the consequence of what you have just told me?”’. Searches on *problem* with associated words *therefore* and *so* will draw attention to this pattern.

The next move after signalling the knowledge gap or a problem is presenting the writers’ own research, or ‘occupying the niche’ (Swales and Feak 2009).

2.3 Move 3: Occupying the niche

2.3.1 Transition between moves 2 and 3: from establishing the gap to presenting the writer’s own research

Examples (6)–(9) show how extracts from the expanded context are used in the class to illustrate the connection between the move of establishing a

knowledge gap and the move of presenting the writer's own research paper (Swales and Feak 2009). The phrases signalling both moves are in bold. When investigating the expanded context, students are guided to pay attention to the means used by writers to create a visible connection between moves. Examples of such a connection, referred to as lexical and semantic sharing between moves (Swales 2011) are illustrated below in bold italics (lexical sharing in examples 6–7 from Lextutor, Academic General, and semantic sharing in examples 8–9, from BNC-English corpora, KWIC search, expanded context).

- (6) **Little research** has been conducted in relation to the *field of Machine Translation (MT)*. **The purpose of this research work is** to determine the feasibility of using *MT techniques* for CLTR.
- (7) **Little research in information systems security** had previously focused on the *internal control systems*. As such, **this research presents** a new area in *information systems security study*.
- (8) In the first place, since **little research** had taken place *outside London*, **we chose to investigate** a *provincial city*.
- (9) Although *religious educators often refer to religion in the lives of children and young people*, and recommend that religious education draw on this experience in their teaching, **little research** has been done in the area. Using techniques developed during an earlier study of British Hindu children, *an ethnographic study of children and young people from Christian, Muslim, Jewish and Sikh backgrounds* in the context of their families and faith communities **will be conducted** in parts of the West Midlands.

Students usually do not have a problem in identifying the lexical connection, but need some scaffolding in recognising semantic sharing. More examples in wider discipline-specific context can be found in MICUSP by running a search on *little research/little attention/few studies* or similar phrases and exploring their use in a broader context.

2.4 Presenting own research

2.4.1 Using careful language to hedge claims

The personal way of presenting claims can be further investigated by using ‘wild card’ searches (*I * argue; we * argue*) in Lextutor or in BNC-English corpora (KWIC). The results (see Figure 16) show that *I* frequently occurs in the recurrent pattern *I would argue that*; its consistent use suggests a preference for a cautious approach to presenting claims. However, *shall* and *will* also appear in this wildcard search meaning that the authors negotiate between certainty and caution.

```

: wildcard search needs input equals and works best with sort-right
ies behind knowledge and understanding are, so I can argue why I feel this field of study can con [philosophy]
illages if his argument here doesn't work, as I shall argue it doesn't. Hence the argument has b [philosophy]
ms regarding the importance of other virtues. I shall argue my position by initially providing a [philosophy]
pt that the mind is irreducible to the brain. I shall argue that by accepting that each person m [philosophy]
: she says that we as yet do not have a link). I shall argue that moral obligation will occur wat [philosophy]
allegory patients any whole number of minds. I shall argue that Nagel fails to respond to the ' [philosophy]
td and there is contradiction in her argument. I shall argue that though her principal thesis and [philosophy]
ified if they do no harm. Hence in this essay I shall argue why in theory policy should be used [economics]
: to human nature and international relations. I therefore argue that since the concept of 'utopi [politics]
investigate the considerations framing these. I will argue for the recognition of 'genuine' fema [sociology]
tk , feel , believe , contemplate , or as I will argue later, fail to do , fail to think [politics]
With respect to his Phenomenology of Spirit , I will argue precisely this point. Now, the size a [philosophy]
ns of Rawls and of distributive justice which I will argue present the strongest reasoning for a [politics]
w they may have changed in recent years. Here I will argue that a relatively new pattern in voti [politics]
stic estimation of population trends. However, I will argue that an acceptance of the population [history]
td the dualities and contradictions within it. I will argue that due to three broad and overlappi [history]
sion of the causes of these population trends. I will argue that fertility and mortality were imp [history]
ics based on economic relations. In this essay I will argue that Habermas retains many aspects of [sociology]
or a 'positive revision' (Layder, 1994: 187). I will argue that Habermas's ideal speech situatio [sociology]
ality. However, as we look at these arguments I will argue that in fact the most convincing argu [philosophy]
: action that Smith recognized? In this essay, I will argue that Smith recognized a variety of co [philosophy]
concept of 'global economy' itself. Instead, I will argue that the concept 'global economy,' wh [sociology]
t important in influencing population change. I will argue that the essential inter-linkage of t [history]
would be a matter for the individual. Finally, I will argue that the introduction of categorical [philosophy]
the key issue (Scourfield 2003:158). Finally, I will argue that the justice system enforces doub [sociology]
E reasons seems the most probable explanation: I will argue that the most important are as follow [history]
partnerships with transnational corporations. I will argue that the very fact that its effective [politics]
E interests in refusing to back America, here I will argue that this event must be put into the [politics]
men in early modern England did infact exist. I will argue that this gap existed despite both m [history]
are going to be? By answering these questions, I will argue that Weber is not a nihilist. His who [sociology]
: may have been the main south to north route, I would argue for the use of Cyprus as a stepping [archeology]
achieve greater degrees of freedom cynically I would argue in a Marxian tradition, by men he me [sociology]
not escape blame: conducting the war. Finally, I would argue that although the 1905 revolution di [history]
and respect in the society. #Conclusion Thus, I would argue that as was declared by the Vienna C [law]
iversalist feminist ideals (Nesome, 1995:141). I would argue that based on examples discussed in [sociology]
ve in the Pharaonic and Graeco Roman Periods'. I would argue that David's article lacks a consid [classics]
social and economic conditions and histories. I would argue that difference within movements has [sociology]
: to be in the form of paid employment surely. I would argue that doing charity or voluntary work [politics]
time is an important determinant of fairness. I would argue that gender cultures and ideologies [sociology]
ork her husband contributes (Coltrane, 2000). I would argue that gender ideology plays a major r [sociology]
: the thick, high walls, ditches and ramparts. I would argue that given the lack of evidence for [archeology]
: that also fit this model and are acceptable. I would argue that Grice has provided an adequate [philosophy]
: episodes present in other Egyptian stories. I would argue that his ordered account of the myth [classics]
: way as was intended in the original naming. I would argue that it also accounts for how a name [philosophy]
people. It is in this sense indispensable and I would argue that it is as effective as it can be [politics]
as with strong son preference (Sanchez, 1993). I would argue that it is difficult to compare this [sociology]
: used to discredit the credibility of TI, but I would argue that it is in fact a poor example an [philosophy]
is knowledge of the divine'. Richter 2001: 207 I would argue that it is not all things Egyptian's [classics]
mineral content and other small variances but I would argue that it is not enough to rescue the [philosophy]
re descended from the Pyramid Texts. Therefore I would argue that it is not particularly damaging [classics]
version of slaves to Christianity was allowed. I would argue that it is only after this point tha [us_studies]
sm of the Marxist approach. In conclusion then I would argue that it is useful in practice to mak [sociology]
nt to support these common sense assumptions. I would argue that Kant is trying to overcome the [philosophy]
ly pose enormous problems to the UN. However, I would argue that more fundamentally problematic [politics]
harmful consequences of her actions. However, I would argue that our individual consciences woul [english]
the traditional sense as meanings purely colour I would argue that race alone cannot account for t [us_studies]

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Figure 16: ‘Wild card’ search *I * argue* in Lextutor, BAWE

Personal and impersonal ways of communicating claims can be compared by using the wild card search *it * be argued* and focusing students’ attention on the epistemic meaning carried by modals frequently associated with this construction: *can, could, may* and *might* have a strong presence in academic corpora in both Lextutor and BNC-English and are

used to downplay the statement of an argument with differing degrees of caution. Such corpus searches introduce students to the use of modal verbs as hedging devices expressing attitude through authors' assessment of epistemic probability (Hyland 2005). Students are asked to reflect on the reason why *argue* frequently occurs with the modal verbs *can*, *could*, *may*, *might* and what effect these modal verbs have on the presentation of an argument. These searches draw students' attention to the role of epistemic modal verbs used with *argue* and to the choices between moderating a claim and mitigating the assertiveness of the verb *argue* and projecting confidence and commitment to the argument.

Recognising varying degrees of strength in presenting their arguments is particularly important for L2 learners because hedging and tentativity is part of Anglo-American academic writing culture (Hinkel 2005), whereas L2 writers find the manipulation of degrees of probability particularly difficult (Hyland and Milton 1997). Concordance searches can help students in identifying tentative elements in academic texts and understanding their function.

More examples of the use of adjectives to mitigate the strength of one's own argument can be found using the wild card search. *It is * to argue* (both in Lextutor academic corpora and in BNC-English corpora) shows the predominance of two phrases: *it is possible to argue* and *it is difficult to argue*, indicating different levels of confidence in presenting an argument. A closer look at these constructions in a larger context can show that they can have different rhetorical functions, for example: refuting somebody else's argument, as in example (10), expressing genuine difficulty in presenting a certain argument (11) or assuming agreement (12).

- (10) On the other hand *it is difficult to argue* that the Revolution resolved the major issues that had been sources of political tension since the Restoration (Lextutor, Academic General)
- (11) However, *it is difficult to argue* a course of business, as Laura is a consumer. (Lextutor, BAWE)
- (12) Unlike the UK, the Netherlands has for most of the time since 1950 pursued a consistent policy of reducing and limiting the prison population; overall *it is difficult to argue* that this

reduction in punishment has adversely affected the Netherlands' crime rate, which has risen in a roughly similar manner to that in the UK over this period. (Lextutor, BAWE)

Other adjectives used in this phrase in BNC-English corpora academic section can be also considered from the point of view of their effect on presentation of the argument (see Figure 17).

HELP		ALL FORMS (SAMPLE): 100 200 500	FREQ
1	<input type="checkbox"/>	IT IS POSSIBLE TO ARGUE	17
2	<input type="checkbox"/>	IT IS DIFFICULT TO ARGUE	7
3	<input type="checkbox"/>	IT IS HARD TO ARGUE	2
4	<input type="checkbox"/>	IT IS EASY TO ARGUE	2
5	<input type="checkbox"/>	IT IS REASONABLE TO ARGUE	2
6	<input type="checkbox"/>	IT IS UNSOUND TO ARGUE	1
7	<input type="checkbox"/>	IT IS PERMISSIBLE TO ARGUE	1
8	<input type="checkbox"/>	IT IS IRRELEVANT TO ARGUE	1
9	<input type="checkbox"/>	IT IS IMPOSSIBLE TO ARGUE	1

Figure 17: Wild card search *it is * to argue* in BNC-English corpora

Corpus BAWE displays the disciplinary subcorpora in which particular concordance lines occur. By looking at subcorpora in which *I will/would argue* and *It can/could be argued* occur, students can conclude that there is a strong preference for using these forms of introducing an argument in Humanities. A search on the inanimate subjects *this study, this paper, this report* show that such forms are used by writers in Humanities and Sciences alike. Students can be asked to test this conclusion by conducting a search in MICUSP on *this paper* and on *I would argue* and comparing these forms in terms of subject area disciplines.

2.4.2 Strength of claim: Boosters

Boosters, or assertive and confident language, make writers' claims stronger, express conviction, and emphasise important points. However, previous research shows that L2 students' writing is often overly direct and assertive (Hyland and Milton 1997). Boosters should be used in academic writing with caution because they remain predominantly a feature of spoken language (Hinkel 2005). Hinkel's findings can be demonstrated to students by the search shown in Figure 18 (BNC-English corpora, Chart). This shows distribution of the intensifying adverb

definitely by genre and highlights the fact that frequencies of *definitely* are lower than in non-academic genres. This observation will demonstrate to learners that academic writers use intensifiers with caution.

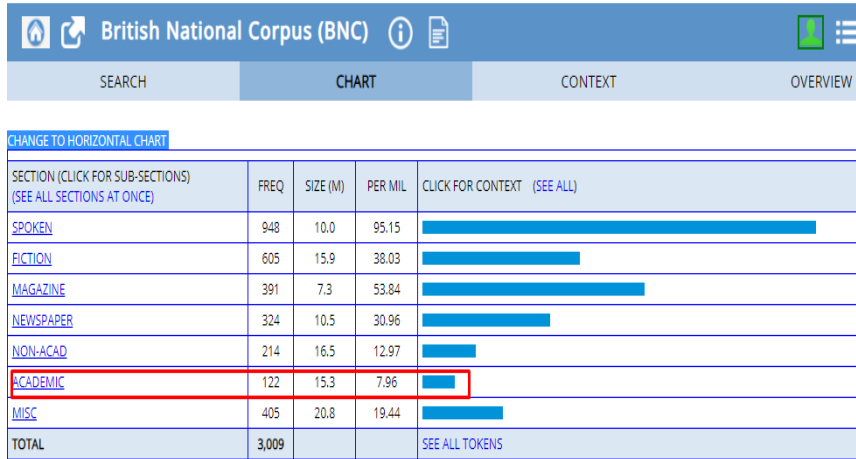


Figure 18: *definitely* in BNC-English corpora, Chart

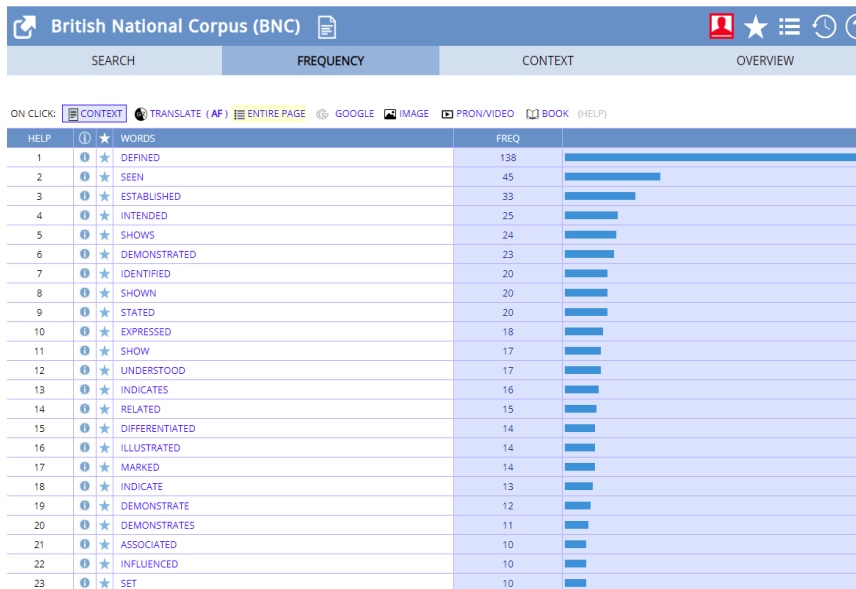


Figure 19: Collocates of *clearly* by frequency (cut-off at 10)

Boosters like *obviously* and *of course* can sometimes be used as a rhetorical strategy, assuming readers' agreement or shared knowledge (Hyland 2009). Boosters can also be useful to emphasise some concrete information for which evidence can be provided. A useful task here is for students to search the verb collocates of the booster adverb *clearly* in BNC-English corpora (Academic section) and look through the right collocates presented by frequency and ask them to identify the verbs that imply tangible support for the claim. Figure 19 shows academic writers' preference for using *clearly* with concrete verbs like *define*, *see*, *show*, *demonstrate*, *establish*, *differentiate*. This search result supports an observation made by Hyland and Jiang (2016a) about empirical focus in the use of boosters in academic writing.

3. Counter-argumentation

Argumentation often involves protecting the argued position from potential criticism (Hyland and Jiang 2016b; Charles 2007). The rhetorical function of anticipating counter-argumentation is an indispensable part of argumentative writing; it is a persuasive rhetorical technique. Writers are expected to consider their position from all sides, including points of view which do not agree with the author's own. Cultural differences in presenting an argument mean that some L2 writers have difficulties with counter-argumentation (Xu and Nesi 2019) which suggests that teaching counter-argumentation deserves particular attention. In counter-argumentation, the line of reasoning followed by the writer commonly incorporates three main moves (plus signalling):

1. presenting possible opposing views or counter-arguments
2. signalling the disagreement and contesting or refuting the counter-arguments
3. reiterating one's own argument/ providing support

Counter-argumentation can be introduced through the searches of lexicogrammatical patterns: *one can/could argue*, *one may/might argue* (see Figures 20 and 21), as well as *some may/would argue* or *some critics claim/argue*, and asking students to look into the extended context.

- (13) ***Even though one can argue that*** some of these choice criteria are not really a safeguard for public investment at all, ***the reality is that*** a practice has a slim chance of securing the job in this way unless it has a proven track record.

In (13), from Lextutor (BAWE, Architecture), students are asked to identify a possible counter-argument (*one can argue that some of these choice criteria are not really a safeguard for public investment at all*); phrases signalling the counter-argument (*Even though*), author indicating a disagreement (*the reality is that*) and refuting the counter-argument (*a practice has a slim chance of securing the job in this way unless it has a proven track record*).

A different strategy could be adopted with more advanced students by presenting a counter-argumentation paragraph to them and asking them to identify the pattern. Similarly, KWIC search in BNC-English corpora can be used for such a task extending it to the searches on *one * argue* (see Figure 21) or *some * argue* or *some critics*. These examples can be used to develop students' understanding of the rhetorical strategies employed by writers in dealing with counter-arguments.

ther, ONE COULD ARGUE that at a time when the prosp	the 1926 General Strike in the
arly, ONE COULD ARGUE that humanities scholars unde	same county as Sunley (1990)
case ONE COULD ARGUE that I and Thou automatically	describes the two geographies,
n so, ONE COULD ARGUE that it is necessary for soci	they have "striking parallels".
nes". ONE COULD ARGUE that such a strong assumption	one could argue that the
sing. ONE COULD ARGUE that such complaints constitu	similarity is coincidental
n, or ONE COULD ARGUE that the philosopher's though	alternatively, one could claim
arly, ONE COULD ARGUE that the saturation of ninete	that similar conditions have
els". ONE COULD ARGUE that the similarity is coinci	evoked a similar response to
lity, ONE COULD ARGUE that they need practical day	two events separated by half a
hough ONE COULD ARGUE that Wordsworth is writing af	century. The latter is
ASIA? ONE COULD ARGUE then, that by July 1949 the b	Sunley's position.

Figure 20: Counter-argumentation pattern *one could argue* (Lextutor, Academic General)

should include torts and not breaches of contract ; One might argue about whether it is expedient for the law to forb
would not unhesitatingly classify it as such ? (One might argue against the concept of 'right-minded persons' ,
usually carefully reasoned , can only be assumptions ; One can argue with Czerny 's and Hummel 's metronome marki
situated at (say) x = 0 ? One may argue that by moving the magnetic field nothing has cl
going for new (incomers ') housing ; One could argue that such complaints constitute some kind of rat
's memorable phrase , ' meat machines ' ! One could argue that such a strong assumption of underlying me
children as their particular responsibility ; one could argue that they need practical day-to-day support in a
ways of indicating status . In these terms one might argue that some languages ' give away ' more about th
of record'whilst the Mirror was a popular newspaper , one can argue that the decline in The Times ' coverage was mor
, of course , unknown . Proponents (and opponents) argue fiercely that it will (or will not) , but we

Figure 21. Counter-argumentation pattern *one may/might argue* (BNC-English corpora)

A variation on the pattern of counter-argumentation described above is another two-step rhetorical move known as ‘Hypothetical-Real’ pattern (Thompson 2001). The typical language structure associated with it is *this may/might seem... but* (see Figure 22). This rhetorical pattern is based on juxtaposition of the imaginary objection (in bold) and its rebuttal (in bold italics), commonly connected by *but* or *although* (as in 14 and 15).

(14) **This may seem harmless enough, but problems arise** once we try to describe the latter kind of fact

(15) **This may seem to be a gloomy picture but** it must be noted that, in relation to work, [...] *increases in ability can more than compensate for small decreases in capacity.*

... children must be treated more like adults ;	This	may seem	a revolutionary step ; but it is surely the most signific
are active participants in their own education ;	This	may seem	so obvious as not to need stating ; but I believe that
phenomenology too ; Counterintuitive though	this	may seem	; AI might help us understand the perceptual experier
of their workforce engaged in manufacturing ;	This	may seem	inevitable as the percentage of people working in the
there are so few women in powerful positions	this	may seem	surprising ; It is important to be clear then about our
variations in the meaning of the sentence ;	This	may seem	a surprising claim in view of the earlier experiments v
can not enter the mental lexicon at all ;	This	may seem	an unimportant omission ; we are rarely called upon ;
; but a guarantee of, liberal standards ;	This	may seem	surprising in view of the widespread acceptance of m
ection of relics with due honour and security ;	This	may seem	today an odd selection of duties . But it was a commc
the rest of the sentence ; (deleted:figure) N.B.	This	may seem	a very simple construction in English ; but may repres
egal services than that a legal problem exists ;	This	may seem	a profligate approach ; yet just as there are difficultie:
ly than the dissociation of the drug ; Although	this	may seem	surprising it is similar to some of the dissociation pro
h in areas which interest and stimulate them ;	This	may seem	a ridiculously simple statement to make ; but awaren
techniques for the study of different topics ;	This	may seem	blindingly obvious to the newcomer to the discipline ;
with just under 12 per cent in 1976 ;	This	may seem	surprising since the Bail Act is thought to have contrit
covers and speaks prose (55ff ;) ;	This	may seem	paradoxical ; but it represents a gesture of adaptatio
early man upon his surrounding landscapes ;	This	might seem	a particularly appropriate task for geographers altho
No more so than in sociology ; To some	this	might seem	puzzling ; surely a discipline knows what it is about ; v
those who have never tried whole group work	this	might seem	true ; but it 's a half truth at most . The
century (Hume , 1739) ; To many	this	might seem	a dry and rather dusty concern ; but those who have
ound nine times before an emperor ; Although	this	might seem	in one sense to be an unequivocal expression of defe
language (Wimsatt 1958 : 1 15) ;	This	might seem	at first sight to express the naive view that onomatop
as a tutor in some merchant 's house ;	This	might seem	to be moving away from Golyadkin , but in point of to
rance and status of the information they find ;	This	might seem	rather beyond primary schoolchildren , but Zimet (19
in my study I might perceive it ;	This	might seem	reasonable enough ; it allows that the existence of a :

Figure 22: Hypothetical-Real pattern *this may/might seem... but* (BNC-English corpora)

4. Conclusions

The strengths of using concordancers in a language classroom have been described many times before; in short, it offers students' autonomy and independence, ability to be in control of their learning process, instant access to help with many language problems and authentic examples of usage. In the sessions on *Argumentation and Critical Writing* and *Writing Introductions* with corpora, students have expressed similar reactions. During the sessions they showed their appreciation of the corpus tools and willingness to continue using them. In the last students' survey (April 2022) that covered the three most recent iterations of the courses, 67% of the students who attended the courses evaluated them as 'very useful', and 33% as 'extremely useful'. In the same survey, in an answer to the question 'do you use corpora and concordancers to help with your writing?', 67% of student students said that they do 'often' and 33% 'sometimes'. Going back to the definition given in Lee and Swales (2006), the courses achieved the aim of raising rhetorical consciousness by using technology. Awareness of rhetorical moves and linguistic patterns connected with these moves helped students to craft their own argumentative writing. In terms of techniques for presenting material, the bottom-up approach, from observing a linguistic form to recognizing its rhetorical functions, worked with more advanced students in the group. If students experienced difficulties with it, the reverse approach was taken, top-down, where the rhetorical function was explained and then its linguistic realisation discussed (similarly to Charles 2007).

However encouraging these results are, they are not generalisable, first of all because of the small number of students per group, and secondly, because the survey covered all the courses that expose students to corpus methods. The courses are run every term, three to four times a year and results are not consistent year on year. The main difficulties come from the heterogeneity of the groups of students with varying computer and linguistic skills and different experience (and inclination) of dealing with quantitative data and interpreting it qualitatively. Another important point to look into would be to use DIY corpora for more finely-tuned results which would reflect students' research area better. However, if students are working on different data sets, the groupwork and discussions may be more difficult.

The examples provided in this study, I hope, will encourage more teachers to use corpus tools, to help in reducing the preparation time and

to provide ideas for the teacher. The aim of this paper was to offer some practical suggestions for using corpus consultations in teaching discursal features, thus joining the existing academic scholarship in this area with the practical needs of teachers. The paper considers ways in which challenging wider aspects of academic writing can be addressed through the use of corpora, in particular issues of argumentation, supporting claims and framing them in the context of previous research, introducing research gaps or problems and counter-argumentation. The paper provides empirical examples of corpus-based activities which can be integrated into everyday classroom practice in different ways depending on students' needs, and available time and resources. The activities suggested are flexible enough to be used in a top-down or bottom-up way: either starting with introducing a rhetorical feature and then focusing students' attention on its linguistic realisation in a corpus or beginning with a corpus exploration of lexico-grammatical patterns and formulaic language and then linking particular linguistic features to the rhetorical function they perform in the text. The suggested tasks are also flexible enough to be incorporated in various academic writing courses as 'hands-on' practice, to demonstrate a particular point on the screen or as a 'paper' task. Susan Conrad in her article (2000: 556) asked a probing question: 'Will corpus-based research reach the right audiences?' This paper is a step along the way of bringing a rhetoric-informed, corpus-based approach into the classroom.

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