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***Besides on the other hand: Using a corpus approach to
explore the influence of teaching materials on Chinese
students' use of linking adverbials***

Maria Leedham and Guozhi Cai, The Open University

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Studies conducted on first and second language student writing in English have pointed to the latter group's high use of features such as informal language, pronouns, and linking adverbials, yet few studies have been conducted on assessed undergraduate writing produced within an English-speaking environment. This paper reports findings from a corpus study of Chinese and British students' writing in UK universities, confirming that a key area of difference is the Chinese students' higher use of particular linking adverbials (e.g., *besides*, *on the other hand*). We hypothesise that one reason for this higher usage is the influence of secondary school teaching materials in mainland China prior to UK university study and examine a set of model texts from the English paper in the Chinese university entrance test, selected as these texts comprise much of the teaching material in the final year of secondary education. We argue that Chinese students are "primed" (Hoey, 2005) to favour particular linking adverbials, to disregard issues of informality, and to prefer sentence-initial positioning. It is hoped that the reported findings will challenge English language teachers and textbook writers to consider the requirements of writing within the academy.

Keywords: Chinese students; teaching materials; corpus linguistics; linking adverbials; intensive reading lesson; National Matriculation Test.

Introduction

Students from China are increasingly choosing to study at undergraduate level in English-speaking countries; in the UK, Chinese people now comprise the “largest single overseas student group” with more than 90,000 Chinese students engaged in learning in the UK (the British Council, 2011). However, relatively few large-scale studies have been carried out on the assessed undergraduate writing of this group within English-speaking contexts; instead, the majority of large-scale studies of both Chinese¹ students’ writing and non-native speaker (NNS²) student writing in general have been corpus studies concentrating on data sets of *unassessed*, extremely short, argumentative essays collected mainly from non-UK universities. While these “learner corpus” studies have yielded useful insights into L2 English students’ writing, it is unclear how far the findings can be extended to longer pieces of assessed writing.

A common assertion of learner corpus studies is that NNSs “overuse,” “under-use,” or “mis-use” certain linguistic features such as informal language (e.g., Gilquin & Paquot, 2007; Wen, Ding, & Wang, 2003), pronouns (e.g., Petch-Tyson, 1998; Ringbom, 1998), and linking adverbials (e.g., Bolton, Nelson, & Hung, 2002; Field & Yip, 1992; Paquot, 2010). Other studies have examined Chinese under- and postgraduate writing in English written in PRC (= China) universities and have reached similar conclusions (Hyland, 2008a; Lee & Chen, 2009). However, little research has been carried out on Chinese students’ writing in English within an English-speaking context, and this paper aims to address this gap. The dataset for

¹ While it is recognised that the term ‘Chinese students’ refers to a range of geographical locations, dialects and ethnic groups, the majority of students in the study are from the PRC. Moreover, the contextual data in the corpus used in this study (BAWE) details only the student’s self-proclaimed L1 (for many Chinese students this is simply ‘Chinese’), and does not request information on perceived ethnicity. The group termed ‘L1 English’ or ‘British’ students gave English as their L1 and undertook all or most of their secondary education in the UK.

² In this paper the terms ‘NS’ and ‘L1 English’ are used synonymously, as are ‘NNS’ and ‘L2 English’, though it is recognized that references to ‘native’ and ‘non-native’ speakers are contentious (as discussed by, for example, Leung, Harris, & Rampton, 1997; Römer, 2009).

the study comprises Chinese and British students' assessed undergraduate writing from four UK universities (extracted from the British Academic Written English [BAWE] corpus; Nesi, 2011). The focus is further narrowed to the area of linking adverbials, since these were revealed through corpus linguistic analysis to be an area of difference between the two student groups. The findings of the study will add more generally to the current body of knowledge on the use of linking adverbials by L2 writers.

The term "linking adverbials" is used to refer to lexical items which have a broadly textual function in binding units of discourse together of clause length or longer. Since they "explicitly signal the connections between passages of text, linking adverbials are important devices for creating textual cohesion, alongside coordinators and subordinators" (Biber, Johansson, Leech, Conrad, & Finegan, 1999, p. 875). Definitions of this linguistic phenomenon vary, however, making it difficult to compare findings across studies (for discussion on terminology, see Liu, 2008, pp. 492-93). In this paper, we follow the listing given by Biber et al. (1999, p. 79) and thus exclude coordinators (e.g., *but*, *and*) from consideration.

A further level of categorisation of linking adverbials important in the context of this study is that of formality/informality, though it is difficult to definitively categorize a lexical item as "informal" or "formal" since much depends on the text and context in which the item appears. Furthermore, linguists' approach to formality/informality is bound up with many currently contested sets of binaries which themselves are often mapped against the key presumed binary of "speech" and "writing" (for discussion see Lillis, 2013). Thus we find that the phenomenon of informal written language is usually referred to in the literature as "speech-like" items or as language with an "oral tone" (e.g., Cobb, 2003; Field & Yip, 1992; Gilquin & Paquot, 2007; Granger, 1998; Hinkel, 2002, 2003; Lee & Chen, 2009; Mayor, 2006; Paquot, 2010) and defined in comparison with a NS "norm" (such as the British National Corpus, academic writing section) or according to researchers' intuitions.

Whilst a contested category, however, it is clear that items marked as “informal” in academic writing by teachers, test markers, or researchers are often viewed as salient and problematic; indeed, Thewissen (2012, p. 9) comments on raters in her study paying “more attention to linguistically-marked textual cohesion [e.g., connectives] than to semantic coherence.” Due to the widespread problematizing of informal lexical items within academic writing, we consider it important to attempt to identify linking adverbials which are likely to be viewed in this way. In the identification and analysis in this study we are guided by Biber et al. (1999), by previous studies of similar language, and by our intuitions as teachers of English for Academic Purposes with extensive experience of teaching Chinese students. For example, while the linking adverbial *what’s more* is not explicitly discussed in Biber et al., the use of contracted forms in academic writing generally are described as “strongly associated with the spoken language” (p.1129) and thus as highly unusual. Moreover, *what’s more* is referred to in other studies as informal (e.g., Lee & Chen, 2009) and is also, in our experience, relatively uncommon in an academic context.

The theoretical discussion of findings from the study is framed within Hoey’s (2005) lexical priming. Central to the theory is Hoey’s claim that for both first language (L1) and second language (L2) users, each and every word is “primed” (p. 8), meaning that we gradually gain knowledge of a word’s collocations, colligations, semantic associations, textual positioning, and other features pertaining to its use:

As a word is acquired through encounters with it in speech and writing, it becomes cumulatively loaded with the contexts and co-texts in which it is encountered, and our knowledge of it includes the fact that it co-occurs with certain other words in certain kinds of context (Hoey, 2005, p. 8).

In this paper we argue that the way in which English language teaching materials, and model texts in particular, are used exerts a huge influence on Chinese students’ writing and their choices of linking adverbials. “Teaching materials” includes

both textbooks used for daily classes and reference books (containing lists of lexical items and/or model texts), with the latter being used mainly in the final year of senior high school as part of their preparation for the English section of the PRC university entrance test (the National Matriculation English Test [NMET]). Model examination texts thus lead or “prime” (Hoey, 2005) students to favour particular linking adverbials, to disregard the informality of some linking adverbials and to prefer sentence-initial positioning.

In addition to the empirical investigations, our argument is also grounded in both authors’ teaching experience and PhD study. The first author has taught English for Academic Purposes in UK Higher Education for almost 20 years and carried out her PhD research on Chinese students’ undergraduate writing in UK universities. The second author has a background in English teaching in a secondary school in China and in preparing and examining students for the NMET, and her PhD focused on English Language Teaching (ELT) methodology in China.

This paper first examines research on the use of linking adverbials in Chinese students’ writing generally in both the UK and PRC, then establishes through corpus linguistic keyword analysis (e.g., Scott, 2010) that linking adverbials comprise a significant area of difference between Chinese and British undergraduate students’ assessed writing in UK universities. We discuss the use of English language reference books in China as one possible sociocultural explanation for the corpus findings. We then report on our analysis of a small set of texts provided as “models” for Chinese students working towards the NMET. We conclude by discussing the importance of highlighting issues of formality/informality and genre within L2 English teaching more widely.

Chinese students' use of linking adverbials

Corpus studies within second language writing research have increased over the last two decades and a number of studies have featured the use of linking adverbials. Much of this research has been conducted on collections of short, argumentative essays, often written under timed conditions and produced for inclusion in a corpus. It is common in these short essays of a few hundred words for each paragraph to comprise just two or three sentences and to begin with a linking adverbial, and sometimes for several sentences in a row to start with a connecting device. These “learner corpus” studies point to the “over-use” of linking adverbials by NNSs overall when compared to NS writing in comparable genres (e.g., Granger & Rayson, 1998; Paquot, 2010; Petch-Tyson, 1998).

A further type of study is the exploration of corpora of naturalistic writing, produced with no time limit and written for assessment purposes. Studies of assessed pieces of writing produced in Chinese contexts have had similar findings on linking adverbials to those of learner corpus studies (e.g., Bolton et al., 2002; Hyland, 2008a; Lee & Chen, 2009; Lei, 2012; Milton, 1999). Using his own corpus of Hong Kong Chinese university student writing in English, Milton (1999, p. 226) reports that students tend to “overuse” certain informal linking adverbials compared to L1 English usage (e.g., *first of all*, *on the other hand*, *all in all*), particularly in sentence-initial position, and “under-use” others (e.g., *an example of this is*, *this is not to say that*) in comparison with L1 English writers. Examining Hong Kong high school students' writing, Field and Yip (1992) describe high use of linking adverbials compared to L1 English Australian students, and discuss the transfer of L1 in the use of the contrastive adverbial *on the other hand* in cases where no contrast exists.

Similarly, Lee and Chen (2009) comment on the high use of the informal linking adverbials *besides*, *what's more* and *what is more* in their corpus of Chinese undergraduate texts on Linguistics written in English. Lee and Chen suggest that

besides has an “afterthought connotation” (p. 288) and precedes less crucial information, arguing that it is not suitable for use at the start of a sentence or even paragraph in the way the Chinese students employ it (e.g., “...students’ confidence might be increased. *Besides*, their interests might be stimulated...” (cf. Lei’s, 2012, discussion on the “over-use” of *besides* in Chinese students’ doctoral theses). However, since Lee and Chen’s Chinese corpus comprises texts written in a Chinese university rather than an English-speaking one, the students had greater exposure to Chinese reference books and this may have contributed to the high use of particular linguistic items. It is also likely that the students’ work would be graded by Chinese lecturers in Linguistics, for whom the “overuse” (for Lee & Chen, when compared to NS or expert writers in Linguistics) might be less marked, meaning students would be less likely to receive feedback on this aspect of their writing.

Comparison studies of L1 and L2 English student writing with professional writing in the same discipline suggest that the writing of both student groups contains a high density of linking adverbials when compared to the professional writers. For example, Chen, 2006, compared Taiwanese MA TESOL dissertations with journal articles; and Shaw, 2009, examined L1 English first-year undergraduate assignments with published articles in literary criticism. Shaw proposes that one reason for the higher use of connecting devices by students over professional researchers is

because the linked propositions are shorter and simpler ideas. The same sort of propositions are connected by the same sort of linking adverbials, but the propositions are better developed in the published essays, so there is more content between the linkers. (Shaw, 2009, p. 232).

Shaw’s reasoning seems more applicable to contrasts between extended writing and the short essays of learner corpora since the latter try to compress the pros and cons of an argumentative essay into 500 words (and for ELT tests often just 100-180 words); in such cases it may be more reasonable to compare the use of linking adverbials through per sentence counts (see discussion in Lei, 2012).

Thus far, the majority of corpus-based studies of student writing have either compared corpora of “skill-display argumentative essays” (Shaw, 2009, p. 218) or have examined assessed writing produced in non-English speaking contexts. The gap in the literature we aim to fill through this study is thus the exploration of L2 student assessed writing produced in an English-speaking context. The two datasets in the study comprise authentic undergraduate writing produced in a natural setting for the purpose of assessment in the UK university context; the L1 English undergraduate students’ writing has the same external conditions of writing and collection as the L1 Chinese corpus and provides a good comparison dataset. The next section outlines the data and methods for the study.

Data and methods for keyword analysis

The data in the study is taken predominantly from the BAWE corpus (Nesi, 2011) with the addition of a small number of extra assignments from Chinese undergraduates studying in the UK which were subjected to the same conditions of collection and examination (henceforth these additional texts are subsumed within the description of the BAWE texts). The BAWE corpus is the first open access corpus containing texts from undergraduate students across a range of disciplines and from several UK universities. All writing in BAWE is deemed “proficient” student writing, defined as graded assignments receiving the UK Honours degree classifications of Upper Second (“merit”) or First (“distinction”). The number of words (tokens), texts, and students contributing to each corpus are given in Table 1 with “Chi12” and “Chi3” denoting the resulting corpora of L1 Chinese undergraduate students’ assignments from years 1-2, and year 3 respectively, and from across 12 disciplines in 4 UK universities; “Eng12” and “Eng3” denote the corpora of L1 English students’ writing from the same year groups, disciplines, and universities.

	Chi12	Chi3	Eng12	Eng3
Number of tokens	140,341	139,354	876,894	458,782
Number of texts	89	57	436	175
Number of students	30	20	45	34

Table 1 **Details of the corpora**

The combined corpora for each student group (i.e. Chi123 and Eng123) were initially explored using the corpus linguistic procedure of keyword analysis to reveal any significant differences. “Keywords” are those words or n-grams (two or more contiguous words) which occur statistically more frequently in a small corpus than in a larger “reference” corpus, relative to the total number of words in each corpus. “Negative keywords” are words or n-grams which occur *less* frequently in the small corpus when compared to the reference corpus. A key word is thus “a word which occurs with unusual frequency in a given text” (Scott, 1997, p. 235). Keyness searches provide an objective way of comparing corpora and discovering which words and n-grams merit further investigation, enabling analysis to begin from the data itself rather than from pre-determined categories.

WordSmith tools v.5 (Scott, 2010) was used to search for keywords in Chi123 compared to the reference corpus of Eng123 (a minimum frequency threshold of 20 for keywords and 2-grams was employed, and 6 for the [less frequent] 3 to 5-grams. The log likelihood test was chosen with the *p* value set to .000001). The resulting list of keywords was manually checked (through examination of the co-text) to eliminate key items occurring in fewer than three disciplines, from only one undergraduate year group, or in writing from fewer than five students. Many of the keywords were from semantically coherent areas, and these were grouped into “key categories,” devised through an iterative process of classification and revision: informal items (classified with recourse to Biber et al., 1999; e.g., *lots*, *a little bit*); use of the first person plural (e.g., *we*, *we also need to*); references to data or visuals within the text (e.g., *the*

figure, according to the); and linking adverbials (e.g., *on the other hand, last but not least*). On occasion, items in these categories overlap; for example, *besides* is both a “linking adverbial” and an “informal item.” In order to maintain a coherent focus, this paper considers only the category of linking adverbials, and limits analysis to semantically whole items (see Leedham, 2011 for details of the whole study).

Results of keyword analysis

Nine linking adverbials were found to be key in the writing of the Chinese students (excluding shorter n-grams subsumed within these such as the 3-gram *on the other* from the 4-gram *on the other hand*). Two negative keywords were also found (i.e. items occurring significantly more frequently in Eng123 than Chi123). The resulting set of key linking adverbials (Table 2) are either single words or relatively fixed multi-word chunks; that is, there are few options open to substitution (with the exception of *in the long run* where *long* can be replaced by *short/medium/long*, and *on the one hand/on the other hand*). (Note that *at the same time* is used in the assignments in the sense of *additionally*. Similarly, *in the long run* is used to mean *finally, in the end*.)

Positively key	Chi123 frequency		Eng123 frequency		Keyness
linking adverbials	pmw	raw	pmw	raw	
<i>besides</i>	179	50	7	9	125
<i>in other words</i>	104	29	10	13	55
<i>meanwhile</i>	79	22	4	6	50
<i>what's more</i>	46	13	0	0	46
<i>on the other hand</i>	193	54	61	81	38
<i>nevertheless</i>	168	47	55	73	32
<i>last but not least</i>	36	10	0	0	24
<i>in the long run</i>	68	19	14	19	21
<i>at the same time</i>	125	35	49	65	18
Negatively key					
linking adverbials					
<i>however</i>	1,412	395	1,950	2,605	-39
<i>therefore</i>	1,005	281	1,518	2,027	-47

Table 2 Key linking adverbials in Chi123 and Eng123

Reading the columns from left to right, Table 2 first provides the list of linking adverbials found to be key; frequencies of each item in each corpus expressed in *raw* figures and per million words; and the keyness of each word using the Log Likelihood statistic provided by WordSmith Tools.

Positively key linking adverbials

As discussed in the introduction, although classifying specific linguistic features as formal or informal is not straightforward, identifying features which are marked as formal/informal in academic writing is considered important by analysts because of the usually negative value attached to “informality.” Three items from the list of linking adverbials in Table 2 are considered to be informal: *what's more*, *besides*, and *last but not least*. The linking adverbial sense of *besides* is widely described in the

literature as incongruous with the expected formality of academic writing (e.g., Chen, 2006; Field & Yip, 1992). *What's more* contains a contracted verb form considered more congruent with speech (Biber et al., 1999, p. 1129); and *last but not least* is described by Paquot (2010, p. 160) as unusual in academic writing corpus since it is “rarely used by native speakers.” All three items are predominantly used sentence-initially, as in examples 1-6 taken from Chi123:

- (1) *What's more*, Butterworth filter will have a more linear phase response in ... (text id number: 6107a).
- (2) *What's more*, the location of double bonds in the chain can also change the nature of the fatty acid... (6081l)
- (3) *Besides*, IHG has a pension deficit of £172m in... (3018e)
- (4) *Besides*, ROS appear to be involved at all stages of cancer development. (6150b).
- (5) *Last but not least*, the market demand elasticity is also essential in incurring different levels of monopoly's economic inefficiency and welfare loss. (7008a).
- (6) *Last but not least*, free radicals generated at sites of inflammation during infection can attack the host cell, leading to apoptosis and necrosis. (6150c).

Besides is used here to add a substantive point to the argument in the same way that *moreover* or *furthermore* might be used, though as Lee and Chen (2009) point out, it is more usual for *besides* to indicate that the ensuing point is one of subsidiary detail rather than a major addition to an argument. The 4-gram *last but not least* is used to indicate a concluding point in an argument in the same way that the more formal *in conclusion* or *finally* might be used.

While not classified here as informal, the linking adverbial *on the other hand* merits discussion as the most frequently used linking adverbial in Chi123 (54 occurrences). Though not the most key connecting device, this item is widely dispersed across texts, individuals, and disciplines in the Chinese corpus. Examples include:

- (7) According to [...], trustee liability is fault-based and not strict. *On the other hand*, Sir Peter Millett has argued extra-judicially that. (0410a).
- (8) ... competence is a key motive affecting job success, because people [...]. *On the other hand*, individuals with a strong achievement (0271c).

The accompanying linking adverbial *on the one hand* occurs far less frequently (just once in Chi123, ten occurrences in Eng123). *On the other hand* is frequently used in all academic writing (Hyland, 2008b) and the higher use in Chi123 suggests a preference for this over alternatives such as *however* (negatively key in this study). For Chinese students, *on the other hand* may be frequently used as it is regarded as equivalent to a Mandarin expression literally meaning “one question, two sides” (一个问题的两个方面 [yi ge wen ti de liang ge fang mian]; cf. two sides of the same coin) and is seen as having a more strongly contrastive meaning than the popular Eng123 linking adverbial *however*³. An additional possible reason for the high use is North's (2003, p. 336) suggestion that some students may choose a longer chunk to increase the word count of their assignment.

Negatively key linking adverbials

Table 2 indicates that two linking adverbials occur significantly more frequently in Eng123: *however* and *therefore* are two of the most common single linking adverbials in academic prose (Biber et al., 1999, p. 887). These two items are

³ These points were suggested by the second author and two additional Chinese informants (Liang Wang and Yu Wang).

particularly well-dispersed across the L1 English texts with *however* occurring in 516 assignments and *therefore* in 460 texts (of the total 611 in Eng123). Additional searches for other single-word linking adverbials commonly used in academic writing such as *thus*, *then*, *furthermore*, *hence*, *nevertheless* (using the list of common linking adverbials in conversation and academic prose given in Biber et al., 1999, p. 887) did not reveal any further significant difference between the student groups.

As well as being used significantly more frequently in Eng123 than Chi123, *however* and *therefore* are also more likely to be used in varied positions by the L1 English student group⁴ (35% of all occurrences of *however* and 69% for *therefore* are *not* sentence-initial in Eng123; the figures are 12% and 40% respectively in Chi123). Examples of these linking adverbials used in medial position in sentences in Eng123 are given below:

(9) These *however* are very stereotypical generalisations and are definitely not true for many Afro-Caribbean's. (*sic*. 0368b).

(10) Calves are *therefore* born effectively with no immunity... (6015j).

In contrast, the Chinese undergraduates prefer a sentence-initial pattern:

(11) *However*, it is doubtful whether other non-state norms apart from codifications... (0410e).

(12) *Therefore*, as the Bretton Woods system evolved, the... (0197a).

High use of linking adverbials in sentence-initial position in NNSs' writing has been noted in previous studies (e.g., Milton's, 1999, study of Hong Kong Chinese students' writing), and has the effect of foregrounding the linking adverbial as a marked textual theme (Halliday, 1994).

⁴ It should be noted here that the issue of "first language" is a complex category which may mask the linguistic diversity of students; multilingualism is highly under-reported in language surveys in the UK (see also footnote 2).

Explanations for use of particular linking adverbials

A number of reasons have been proposed for the high use of particular linking adverbials in L2 student writing, including cultural differences (e.g., reader/writer responsibility, issues of positive politeness), translation equivalents (e.g., Field & Yip, 1992), and the impact of L1 syntax on L2 writing. This last point includes differences in hypotactic and paratactic relations between Chinese and English and the influence of connecting devices used in pairs for stylistic impact in Chinese (see Kirkpatrick & Xu, 2012, for a detailed discussion on these areas and the influence of Western and Japanese writing). Crewe (1990) argued that inclusion of linking adverbials in L2 English writing is an attempt to give a more academic style and even to “impose surface logicity on a piece of writing where no deep logicity exists” (p. 320), a point which has been picked up by more recent researchers such as Paquot (2010). Genre is clearly an important factor, for example the employment of “chains of connective devices” (Paquot, 2010, p. 174) in the short essays which typify learner corpora and ELT tests may be partly due to the necessity of both covering the required topic area and demonstrating logical relations within a tightly prescribed word count.

Lexical teddy bears

A further reason for the high use of particular linking adverbials is that these may function initially as “lexical teddy bears” (Hasselgren, 1994, p. 237)--that is, frequently-used linguistic items which feel familiar and “safe” (cf. Dechert’s notion of “islands of reliability” or “fixed anchorage points,” 1984, p. 227, in Granger, 1998, p. 156). As student writers widen their linguistic repertoire and become more confident, they gradually broaden their range of phrases. To test this hypothesis on the current dataset, Chi123 was subdivided into years 1-2 and year 3, giving two subcorpora of equal size (details given in Table 1). Exploration of the subcorpora confirmed that

most of the positively key linking adverbials from Table 2 are more prevalent in writing from years 1-2 than in year 3 assignments (the two exceptions are *nevertheless* and *in other words* which show a small, though not statistically significant, increase in use in year 3) (see Table 3). Examination of individual texts suggests that this overall reduction in recycling these linking adverbials is due to an increase in the use of other connecting devices and of more varied ways of achieving cohesion in text, meaning that the “lexical teddy bears” of years 1 and 2 become less favoured by year 3.

	Chi12		Chi3		Eng12		Eng3	
	pmw	raw	pmw	raw	pmw	raw	pmw	raw
<i>on the other hand</i>	257*	36	129	18	59	52	63	29
<i>besides</i>	228*	32	122	17	8	7	4	2
<i>at the same time</i>	185**	26	65	9	47	41	52	24
<i>nevertheless</i>	157	22	179	25	62	54	41	19
<i>in the long run</i>	114**	16	22	3	13	11	17	8
<i>in other words</i>	100	14	108	15	7	6	15	7
<i>meanwhile</i>	86	12	72	10	2	2	9	4
<i>what's more</i>	64	9	29	4	0	0	0	0
<i>last but not least</i>	50	7	22	3	0	0	0	0
<i>however</i>	1290	181	1536	214	1887	1655	2071*	950
<i>therefore</i>	1140*	160	868	121	1504	1319	1543	708

Table 3 Comparison of linking adverbials across yeargroup corpora (i.e. Chi12 and Chi3; Eng12 and Eng3). Significance figures from the log likelihood test using Rayson’s log likelihood calculator (<http://ucrel.lancs.ac.uk/llwizard.html>): * = $p < .05$; ** = $p < .01$.

The influence of teaching materials

Finally, high use of particular linking adverbials at the beginning of undergraduate study may also be partly due to the impact of English language teaching materials and of book-focused teaching (e.g., Milton & Hyland, 1999; Paquot, 2010). This influence is likely to be especially pronounced in China due to the emphasis placed on learning through reference books and the Intensive Reading

programme employed. Related to this is the tendency for ELT materials to provide lists of linking adverbials, without distinguishing their use in different genres (Liu, 2008; Milton & Hyland, 1999). English language reference books in China also commonly present linking adverbials in sentence-initial position, in both sentence-level exercises or within short passages of writing, and it is likely that this influences students' positioning of adverbials.

It is not our intention here to argue that specific factors work in isolation, and we recognise that in accounting for the use of any linguistic phenomena across the student groups multiple factors are likely to interrelate. However, we consider it useful to explore possible priming effects, and the remainder of this paper focuses on the possible priming effects of ELT teaching materials on Chinese students' tertiary-level writing in English.

ELT in China

In this section we elaborate on how reference books and model texts are used in ELT classrooms in China today. First, we explore how books have historically been perceived as providing “true knowledge” in China, and then illustrate how this perception is still widely held and thus shapes the way in which teaching material is used today within the Intensive Reading lesson. Although claims made in this section regarding the importance of books may apply to many parts of the world, our focus here is specifically on the sociohistorical context of China.

Knowledge comes from books

Traditionally, Chinese culture respects the value of knowledge, particularly knowledge derived from books to the extent that anything worthy of inclusion in a book is by definition considered to be true (e.g., see Kirkpatrick & Xu, 2012; You, 2012). Indeed, the literal meaning of the word “teach” (教书 *jiaoshu*) in Chinese is

“teach the book,” and the Chinese language contains many sayings, proverbs and idioms which praise the value of books and knowledge, for example “万般皆下品，唯有读书高” (wanbanjiexiaping, weiyoudushugao), meaning “everything is low; only reading books is high.” The reverence for written works can be attributed to the respect held for the ruling class of scholars from the start of the Qin Dynasty (221 BCE) until the end of the Qing Dynasty (1911 CE)⁵. Lin (1948, p. 211) notes that: “[t]his worship of scholarship has taken the form of a popular superstition that no paper bearing writing should be thrown about or used for indecent purposes, but should be collected and burned at schools or temples.” The imperial examination dated back to 605 CE (the time of the Sui Dynasty) and was only abolished with the overthrow of the last emperor in the Qing Dynasty in 1911. This examination required memorization of the revered “Four books and Five classics”⁶ by “sages” such as Confucius (551-479 BCE) and served as the selection process for scholars (civil servants). Even today, memorizing extracts from teaching materials is still an important part of learning within many subjects, particularly in the humanities, at all levels of education in China (cf. Hu, 2002, and Scollon, 1999, on the importance of written texts in acquiring knowledge).

Intensive Reading lessons in China today

In the English language classroom in schools, the reverence for the printed word is illustrated by the focus on reading at secondary and tertiary level, to the extent that English courses are frequently called “intensive reading” courses (IR). Despite the name, however, such courses contain a combination of the “five skills,” namely listening, speaking, reading, writing, and translation. Cortazzi and Jin (1996, p. 66),

⁵ The event known as the ‘burning of books and burying of scholars’ occurred at the start of the Qin Dynasty; the purpose of this was to unify beliefs and to centralize the emperor’s ruling.

⁶ The four books include The great learning (大学 daxue); The doctrine of the means (中庸 zhongyong); The analects of Confucius (论语 lunyu); The Mencius (孟子 mengzi). The five Classics include the classic of changes (易经 yijing); Classic of Poetry (诗经 shijing); Classic of Rites (礼记 lijì); Classic of history (书经 shujing); Spring and autumn annals (春秋 chunqiu).

drawing on studies by Dzau (1990) and Meyer (1990), summarise the common teaching sequence for each IR lesson:

- Before class, students check the meaning of new words, listen to recordings and read the text aloud.
- In class, the teacher asks students to read the text aloud.
- New words and selected grammatical points are explained.
- The class completes the textbook exercises and practises further by paraphrasing, summarizing and retelling the content of the text.
- Some teachers then involve students in discussion, debate, or role-play.

China as a nation has undergone many changes in recent times, and ELT has not escaped, as is evident in the constantly evolving curriculum and in the innovations of both teaching methodologies and materials. However two aspects of education appear to remain unchanged in the PRC: the status of the IR lesson and the classroom practices described by Cortazzi and Jin (see also Hu, 2002; the classroom teaching and observations of the authors also support this view of the status quo).

Teaching an IR lesson still involves paraphrasing sentences, explanation of grammar items, and modelling the usage of new vocabulary. The technique of paraphrasing entails the teacher explaining new or difficult language points by using comparatively easier or already known words/phrases, that is, the teacher interprets and de-constructs sentences and then re-assembles them (cf. Johnson's, 2001, description of incrementalism or "building up" of the text from small language structure to sentence patterns). It is common for English teachers to ask students to memorize paragraphs of texts from their textbook as homework and to then test this memorization by asking students to reproduce the text. Jin and Cortazzi (2006) note that in middle school English lessons

memorization of vocabulary lists, knowledge of grammatical rules and the ability to recite texts become increasingly important and by the

end of senior middle school English learning becomes dominated by exam-preparation activities (p.10).

The three years of secondary English teaching and learning, indeed the whole of secondary school education, is test-driven with students facing intense pressure to succeed from teachers, parents, and themselves, in the form of extensive homework and additional “cram school” preparation for the university entrance exams (Dongping, 2006). The usual practice in English classes is that teachers complete all three years of national curriculum content within two years and then have a whole year to prepare their class for the NMET by revisiting what students have previously learned and setting mock papers. Nearer the NMET date, students are given pages of model answers to memorize so that they can perform well in the real exam. The assertion that memorization should precede writing is expounded by the Chinese proverb: “As long as one can recite 300 poems from Tang Dynasty, s/he can be a good poet.” The practice of memorizing sample texts is also popular at university level as You (2004) describes in his study of English language writing instruction for non-English majors in a Chinese university:

She [a teacher] also offered some suggestions... “Students with lower proficiency should try to memorize some model writings, so you can write with much more ease. There are 34 model writings in this booklet. It would be better if you could memorize all of them” (p. 101).

While we note the useful “scaffolding role of copying” (Li, 2012, p. 64), it seems that the model texts used in exam practice materials exert a very high influence on students’ future language use. To establish the potential influence of secondary school teaching materials, a small study was carried out on model examination texts; the next section reports on the findings from this study.

Potential influences: A study of model texts

In China the NMET is a gatekeeper for higher education entry as well as acting as a baton to orchestrate teaching and learning. Most teachers ask students to memorize model texts in preparation for the NMET. Both the rubric and model text are available online and are also reproduced in popular writing guides for students; hence, test papers are integrated into teaching materials and drive students' learning. The writing data used in this section comprises model texts from the 15 versions of NMET papers⁷ used across China in 2005. As the corpus data of undergraduate Chinese students' assignments discussed earlier was produced primarily in the years 2007-2008, it is likely that these students took the NMET in China in or around 2005.

Two genres dominate the writing section in the English test paper: an argumentative essay and a letter (or in recent years an email). For this study, each author read the model answers provided by the examination committees for the prose section of the 15 NMET papers and listed all linking adverbials; we then discussed minor discrepancies and refined our list, with reference to Biber et al. (1999, p. 875) (Table 4). While the dataset is small and from a limited genre (the short argumentative essay produced for examination purposes), we argue that due to the routine practice of memorization of model texts in the IR lesson (e.g., Jin and Cortazzi, 2006) these texts are likely to have a great impact on students' later writing.

Province	Task overview	Word count	Linking adverbials
National	formal letter to newspaper editor	131	<i>also, however, so, what's more,</i>
Beijing	informal letter to homestay student	154	<i>also, so</i>
Shanghai	narrative essay on friendship	147	-

⁷ One version of the 2005 NMET papers is the national exam and is used by 20 provinces; the other 14 versions are written for the use of individual provinces. Prior to 2004, all Chinese students sat the same NMET paper; from 2004, some provinces were authorized by the Ministry of Education in China to design their own English test papers.

Tianjin	descriptive essay on national book fair	116	<i>so, also</i>
Chongqing	narrative essay on choosing a present for a teacher	105	<i>that is</i>
Zhejiang	descriptive essay on birthday celebrations	115	<i>for example, in this way</i>
Jiangsu	open letter to all high school students on doing one's best	129	<i>firstly, secondly, thirdly</i>
Jiangxi	argumentative essay on making friends online	101	<i>however, besides</i>
Liaoning	narrative essay describing a bus breakdown	115	-
Hubei	letter giving advice to a friend	117	<i>for one reason, for another reason, therefore, so</i>
Hunan	formal letter responding to a summer camp invitation	104	<i>so</i>
Guangdong	narrative essay with moral	139	<i>or (in sense of alternately)</i>
Fujian	argumentative essay on cheating in exams	105	<i>on the other hand, so, what's more</i>
Anhui	essay giving instructions to new students	99	<i>firstly, secondly, so, lastly</i>
Shandong	job application letter	109	<i>besides, above all, so</i>

Table 4 Linking adverbials in model texts

This analysis reveals an average linking adverbial count of 1.79 items per 100 words (or one linking adverbial per four sentences) in the model texts and includes two of the keywords found in the Chinese undergraduate students' writing: *besides* (x 2) and *what's more* (x 2). Overall in the 2005 model texts, 75% of the linking adverbials are sentence-initial.

The National text has the greatest influence as in 2005 it was used in 20 out of the 34 provinces in China. This model text required students to write a letter to a newspaper editor reporting a class discussion on whether Beijing zoo should move

out of the city. The text contains 4 linking adverbials in just 131 words, and illustrates the reliance on sentence-initial linking adverbials to maintain cohesion:

However, other students are against the idea, saying that the Bejing Zoo, build in 1906, has a history of 100 years, and is well-known at home and abroad. So it should remain where it is. *What's more*, moving may cause the death of some animals. (National model text, 2005).

Figure 1 provides a full question with model answer given by the 2005 NMET in Fujian province together with a model answer provided by the examination board.

附 15: 福建卷书面表达题 (Writing in 2005 Fujian Paper)

目前, 学校存在少数学生考试作弊现象。某英文杂志社拟对此现象向中学生征文, 标题是“*My Opinion on Cheating in Examinations*”。请根据下列提示用英语写一篇征文稿。

内容要点如下:

主要原因	考试偏多、偏难
	不用功、懒惰
	取悦父母、老师
个人看法	作弊不对、违反校规
	要诚实、努力学习
	……(其他看法)

注意: 1. 短文必须包括所有内容要点, 可适当发挥;
 2. 短文标题与开头已为你写好, 不计入词总词数;
 3. 词数: 100 左右。
 4. 参考词汇: 作弊 *cheat* (v.)

My Opinion on Cheating in Examinations

It is known to us all that some students cheat in examinations at school.
 ...

【参考范文 (One possible version)】

My Opinion on Cheating in Examinations

It is known to us all that some students cheat in examinations at school.

As students, we often take examinations at school, but sometimes we have too many examinations which are too difficult for us. On the other hand, some of us are lazy and don't work hard at their lessons. So when taking examinations, they sometimes cheat in order to get better results to please their parents and teachers.

In my opinion, it is wrong to cheat in examinations because it breaks the rules of schools. We students should be honest and try to get good results by studying hard instead of cheating in examinations. What's more, we should improve our study methods and get well prepared for examinations.

Translation of the Chinese rubric:

At the moment a few students try to plagiarise in exams, and an English journal is asking for articles on this topic from secondary school students. Please write an article entitled ‘My Opinion on Cheating in Examinations’ based on the following prompts:

Main reasons	There are too many exams; they are too difficult.
	Students are lazy and do not work hard enough.
	Students want to please their teachers and parents.
Your opinions	Plagiarism is wrong and breaks school regulations.
	Students should be honest and work hard.
	... (other reasons)

1. The short article must include the above points, but you can include your own ideas too within reason.
2. The title and first sentence should be excluded from the wordcount.
3. You should write a minimum of 100 words.
4. (translation of ‘cheat’ (verb)).

Figure 1 Example Two: Question from Fujian NMET, 2005 with sample answer, from: *A Guide to English Writing for Senior High School Learners*, 2006, Hubei Education Press p.198

The question title for the text in Figure 1 (“my opinion on cheating in examinations”) illustrates the general knowledge nature of the writing test (cf. the International English Language Testing System [IELTS] writing test 1 and the short argumentative essays comprising learner corpora). The structured layout of the model essay is typical of practice test books (cf. the study of IELTS tests by Mayor, 2006). Thus the rubric provides not only guidance as to the *type* and *structure* of the required answer, but also extensive prompts, including suggested opinions, and effectively renders the student’s task primarily one of translation. The model answer given below the question in Figure 1 includes each point from the table of “prompts” in the same order. The short sample answer includes two linking adverbials found through the keyword analysis (*on the other hand*, *what’s more*)⁸.

⁸ Interestingly, pronoun use in the model text alters to the third person plural when the writer considers students who cheat. Thus, although ‘we’ all have exams and may experience

Translated lists of linking adverbials

In addition to the use of exam question papers and model texts in English classes, Chinese students are generally exposed to linking adverbials in the form of lengthy lists provided with translation equivalents, as in the extract in Figure 2 which is taken from a popular English language reference book.

As a consequence	结果
As a result	结果
As the matter stands	事实上
At last	最后
At length	最后
At all events	无论如何
Consequently, most people believe that ...	结果, 大多数人相信……
Finally, we hope that ...	最后, 我们希望……
For short	简而言之
From this point of view	就此而论
Hence, we conclude that ...	因此, 我们断言……
I will conclude by saying ...	最后, 我要说……
I want to make one final point ...	我要说的是最后一点是……
In a word	总之
In brief	简而言之
In conclusion	最后
In general	总之
In short	简而言之
In summary	总之
In the end	最后
In the last analysis	归根结底
In the last place	最后
It may be confirmed that ...	可以肯定……
It may be safely said that ...	可以有把握地说……
Last but not least	最后, 但并不是最不重要的
Last of all	最后
On the whole	总的来看

Figure 2 Example list of connectors under the heading ‘conclusion’ from: *Success with Test* (2008) Jilin Publishing Group inc., p.21.

Crewe (1990, p. 318) aptly describes such “atomistic listing and selection procedures” as serving to “separate the connective as a linguistic entity from its role in the information structure of the text”. The list in Figure 2 is a subset of an 8 ½ page list of

difficulties, it is a subset of this collective group (‘some of us’) who are ‘lazy’ and an external group who deviate (‘they sometimes cheat’), with the clear implication that the reader is not a member of the subset of cheaters.

lexical words and chunks given within functional groupings (e.g., additive, causative, comparative). No information is provided in the list as to the usage or formality of each item, giving the implication that the more “formal” linking adverbials (e.g., *as a consequence, in conclusion*) and the less formal chunks (e.g., *in a word, last but not least*) are substitutable. Indeed, in the Figure 2 extract the Chinese translations for *in a word, in general, in summary* are identical (*zongzhi* 总之).⁹ Notably, the wordstring *last but not least* appears in this reference book list; this was identified as a key linking adverbial in Chi123, yet was entirely absent in the 1.3 million word Eng123.

It could be argued that the very short writing tests in the NMET provide little preparation for Chinese students’ tertiary level writing in English (cf. Moore & Morton, 2005). Examination of this dataset lends support to our argument that the high use of particular linking adverbials in the Chinese students’ undergraduate writing in English can be partially attributed to the way texts are used within secondary schools in China. In particular, it seems likely that the widespread provision of lists of linking adverbials in Chinese reference books at secondary level contributes to the relatively high use of these items in Chinese students’ tertiary-level writing, and to the mixing of informal and formal language generally in academic writing. Linking adverbials, whether words or chunks, are easily-identified, semantically-whole items which are likely to be noticed by learners, particularly those learners who have spent time memorising model texts from test papers such as the NMET or IELTS.

Discussion and conclusion

The evidence reported in this paper reveals the Chinese students’ preference for particular linking adverbials (the 9 appearing as keywords), the use of informal linking adverbials (3 of the 9 linking adverbials were classified as “informal” when

⁹ Note that two of the linking adverbials include the use of the first person plural (*Finally, we hope that...; Hence, we conclude that...*) and two contain the first person singular (*I will conclude by saying...; I want to make one final point...*) with no discussion over the appropriacy or otherwise of different pronoun use.

occurring in academic writing), and the tendency to prefer sentence-initial positioning for *however* and *therefore*. As the short essays and letters studied at secondary level are presented as “model” answers to high-stakes examination questions, we contend that students are likely to focus on these particular linking adverbials and to continue using them in their longer undergraduate assignments in English.

High use of particular lexical items and the blurring of formality levels are especially likely at the start of students’ UK academic career when they perhaps lack the breadth in academic reading required to employ a range of items and to distinguish between genres. On moving from their home country to study in the UK, L2 English students encounter a different set of primings (the same is true of UK-based students, though to a far lesser extent, as the transition¹⁰ from A-levels in the UK to university writing is not as marked). By year 3, students are likely to have read and noticed which linking adverbials are most common in academic writing, to have broadened their range of adverbials through increased exposure to academic writing, and possibly to have received feedback (from faculty or specialized ELT tutors) on aspects of their writing. Thus, Chinese undergraduate students enter year 1 with an “inventory” (Wray, 2005) or set of “primings” (Hoey, 2005) from their experiences of English texts in China, and by year 3 have reconfigured their inventory to include more recent primings from UK study. While all texts in the study are overall proficient in meeting the required standards, the Chinese year 3 students have reduced their dependency on a small set of linking adverbials as they conform to the expectations of the academy.

Hoey’s priming theory seeks to account for the “naturalness” of words and sequences in use within a particular discourse community. Since Chinese students’ exposure to linking adverbials in the final year of secondary schooling predominantly

¹⁰ For each of Chi123 and Eng123, the majority of texts are from students aged 18 – 27 who thus had a relatively recent transition from secondary schooling to university. A small number of texts were contributed by students aged 28 to 48 (6 texts for Chi123 and 19 texts for Eng123). It is likely that more mature students (mainly British) are busier with jobs and/or family life and thus less keen to contribute assignments.

comprises model examination texts, these texts are likely to be highly influential on their tertiary-level writing in English. Hoey (2005, p. 11) argues that commonality in language use is achieved via the “harmonising” of language through education or self-reflexivity wherein an individual’s primings become similar to those of the majority. A corollary of Hoey’s theory, then, is that the greater an individual’s exposure to the language of the discourse community, the greater the degree of harmonisation of primings.

Undergraduate writing in UK universities presents additional challenges to this student group since it is very different from Chinese students’ previous experience of academic writing (i.e. Intensive Reading lessons with a focus on interpreting texts sentence by sentence and the limited letter-writing and short essays of the NMET). In a globalized educational environment it is important for educators to understand differences in writing across the student body. It is hoped that the findings reported in this paper will challenge secondary school teachers and textbook writers in China, as well as university foundation classes in the UK, to consider issues of formality and genre in the use of English in academic contexts. Access to a corpus of student academic writing (such as BAWE¹¹) and the means to specify particular disciplines and genres permits analyses of the types of assignments students are required to write and conduct searches of, for example, the use of linking adverbials within these texts. Such analyses, whether undertaken by tutors, materials writers or students, would further understanding of how particular linguistic phenomena are employed in student academic writing.

Limitations and future work

Limitations of the corpus study of student assignments include the lack of qualitative data for the specific grades awarded to the undergraduate assignments.

¹¹ For information on how to search the BAWE corpus see <http://wwwm.coventry.ac.uk/researchnet/BAWE/Pages/SketchEngine.aspx>

While the texts can be described as successful in that they meet the standards expected for a high grade, we do not know the extent to which any perceived linguistic deficiencies detracted from the writing (cf. similar comments in Ädel & Römer, 2012, p. 5). Text-based interviews with faculty would be helpful here in judging the attention paid to particular linguistic phenomena, though this would need to take account of variation across disciplines, departments, linguistic and cultural background of faculty and so on. This study compared two L1 groups; if undergraduate students are following a trajectory of academic writing in which their lexical primings gradually conform to the norms of the academy, then an alternative comparison would be to compare lower and higher grade assignments to identify changes as students become more proficient.

Future studies in this area could include replication studies (Porte & Richards, 2012) and could usefully concentrate on corpus and discourse analysis of the teaching material thought to influence Chinese students' tertiary-level writing in English: model examination papers, secondary school reference books and NMET preparation material. This could be combined with interviews with ELT tutors, faculty, Chinese teachers of English, and students themselves to gain a fuller picture of the influences on Chinese students' use of linking adverbials when writing in English. While the focus in this paper has been solely on Chinese students and the use of linking adverbials, adherence to textbooks is a widespread global phenomenon and it is important for English tutors and materials writers to consider the specific nature and impact of priming in considering issues such as formality and genre.

Note: The data in this study comes from the British Academic Written English (BAWE) corpus, which was developed at the Universities of Warwick, Reading and Oxford Brookes under the directorship of Hilary Nesi and Sheena Gardner (formerly of the Centre for Applied Linguistics [previously called CELTE], Warwick), Paul Thompson (formerly of the Department of Applied Linguistics, Reading) and Paul

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