Making Corpus-Based Language Practice Exercises

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Abstract

While in academic circles the benefits of using a corpus as a means of undertaking language analysis are increasing widely appreciated, this has not led to the widespread use of corpora by language teachers, or materials producers, in making teaching materials. This paper, based on the making of a set of corpus-based exercises and their evaluation by ESL students, considers why this may be and suggests how the various obstacles to their use may be overcome.

Introduction

In recent years, the development and use of large computer-held corpora of language as a source of information about language use has been a major area of advance in linguistics and language education. The impact of corpora has perhaps been most visible in the area of English learners' dictionaries, although it has touched many other areas in the field. Despite these advances, and despite the fact that relatively large corpora are increasingly available in different forms to practising language teachers and language materials writers, their impact on teaching or testing materials has remained restricted. While attention is often paid to corpus information about frequency of lexical items being taught or tested, the possibilities of using corpus-drawn language for language practice appears to have been largely ignored. This is even true of largely corpus-based texts such as the Collins COBUILD Student's Grammar (Sinclair et al, 1991), in which while language description is corpus-informed and example sentences are drawn directly from a corpus, sentences used in

the exercises are made up.

This paper is, in part, the report of a project in which vocabulary practice exercises were made for publishing using language drawn directly from an English corpus. It is also intended as a guide for practising teachers who might wish to produce teaching, practice or testing materials by the same means, but who do not have access to the resources available to major publishers. We will begin by considering what is involved in using a corpus to make exercises for language teaching: briefly reviewing what the merits of corpus-based exercises may be as well as considering reservations language teachers may have about making such exercises. Following this, there is a report of how a set of corpus-based and made-up exercises were evaluated with a small group of ESL users, in which the subjects were asked to do the exercises and also evaluate them from a number of perspectives. Reflecting on the subjects' scores and evaluations of the exercises, we will consider in what respects corpus-based exercises may be different from made-up exercises. Finally, we will review questions regarding the practicality and value of using corpus-based materials, consider what obstacles there may be to the wider use of corpora in this area, and suggest ways in which these obstacles may be overcome.

Why bother with a corpus?

There are different reasons that people may be discouraged from using a corpus for producing language teaching or practice materials. One major type of objection may be that levelled at authentic materials generally: that students may be confused when they encounter unknown words, that language will be too difficult generally, that it may include irrelevancies, that there may be too much confusing cultural content. From a teacher's perspective, in addition to the above, the fear that it may be too difficult and time-consuming

to produce materials using a corpus may be a major cause for concern.

The proposed merits of using authentic materials, and the benefits of drawing them from a corpus, are in some ways the mirror image of the objections listed above. Students need to learn what to do when they encounter unknown words rather than be protected from them; real language is often untidy, and this, too, students need to get used to; all language does have a cultural context and students need to get used to this. As for the teacher's perspective, it could be argued that using a corpus can save time, that it is not difficult to use, and that it gives the teacher the opportunity of creating materials that exhibit natural, typical language use in a way that would be impossible without a corpus.

Many of the reservations listed above, as well as the merits, have remained untested. Part of the purpose of this paper is to examine whether the reservations and proposed merits are justified.

Making the exercises

This paper is in part a report of the making and use of exercises for practising particular aspects of article use. *The* and *a* are the two most frequently occurring words in the English language, and there are over sixty different uses or areas of use of these two words (Berry, 1993). This means that even a small corpus contains a very large number of occurrences of *a* and *the*, although occurrences for less common uses would be much fewer and harder to find. The sort of task faced by anyone choosing example sentences from a corpus for many of the most frequent 5,000 words in English also apply here: identifying particular senses or uses, identifying typical patterns and collocations within each sense, and selecting examples that reflect these.

As this project was related to the production of the Collins COBUILD Guide to Articles (Berry, 1993), the focus of the exercises was already decided. For

each exercise type exercises were prepared from three sources:

i) One made-up exercise that had been published, or intended for publication, in a student grammar or similar (Murphy, 1985; Beaumont and Granger, 1989; Berry, 1993),

ii) One exercise made using sentences drawn from the then 100 million word combined corpus of the COBUILD Bank of English,

iii) One exercise made using sentences drawn from the then 2.5 million word combined corpus (spoken, written fiction, written non-fiction, newspaper) held on the Arts Faculty computers at the University of Birmingham.

These sources for each set of exercises were chosen to be able to compare 'professional made-up' exercises with exercises made with sentences from a 'professional-size' corpus and with exercises made using an 'amateur-size' corpus. The third set was included so as to give an idea of what could be produced by a practising teacher with access to a personal computer, a commercially available concordancing program (Microconcord), and a small corpus of language.

The problems of concordancing *a* and *the* are the problems of high frequency words with many different senses or uses; it takes a lot of time for the computer to 'gather' all the occurrences of the word and then to sort the concordance lines. It also takes time for the person working with the corpus to isolate the lines demonstrating a particular sense from the thousands of lines for a word, and to identify examples that are typical in terms of text type, syntax, and collocation. A short cut, in this case, lay with the Collins COBUILD Guide to Articles (Berry, 1993), in which much of this corpus analysis had already been done. Following the information about each sense or use in the Guide, typical word strings or collocates identified in the Guide were concordanced. For example, for the use of *the* explained in Section 8.10 of the Guide (see Appendix 2), *simpler, better, easier, more* __ (*adj.*) __, etc.

were concordanced as the first step towards producing the sentences in Exercise 1Z (Appendix 1) with the pattern *the* (*adj.*) *the* (*n.*) *the* (*adj.*) *the* (*n.*).

As far as possible, sentences chosen from the corpus were selected for their typicality, variety, and comprehensibility. They were sentences that reflect typical syntax and collocations for the article use in question, and at the same time reflect the variety of contexts available to the user. Sentences including unnecessarily complex concepts or grammatical structures were excluded, as were sentences about topics that were too culturally specific.

Piloting the exercises

Especially with "self-study" texts, it is important that the language practice exercises do provide practice in the area of language that they are meant to. Exercises should also be of a suitable level for the students and interesting enough to maintain his or her interest. In order to evaluate the practicality of using corpus-based exercises, these factors were investigated with a small group of EFL language users.

Ten intermediate to advanced level learners/users of English agreed to take part in the research. Although perhaps not a representative sample of learners who use student grammars or similar (they were all postgraduate students or university staff), their level of English was appropriate for having practice in article use. They also represented a wide range of national or linguistic backgrounds: Argentina, Bhutan, Egypt, France, Poland (2), Russia, Spain, Taiwan and Turkey.

Each participant was given a package consisting of three sets of exercises (Appendix 1), the explanation for the relevant lexicogrammatical points (Appendix 2), and a simple evaluation sheet for each exercise (Appendix 3). The subjects read the explanation, did the exercises, completed the evaluation sheets, and returned the packages.

The three types of exercises were labelled and ordered as follows:

1X Bank of English	1Y Made-up	1Z Arts Faculty corpus
2X Arts Faculty corpus	2Y Bank of English	2Z Made-up
3X Made-up	3Y Arts Faculty corpus	3Z Bank of English

Scores

As the materials prepared were not for a test but to be used as practice materials, a high level of correct answers was expected. For six of the subjects, the exercises appeared to be of a suitable level of difficulty overall, with average correct response levels being between 70% and 89%. For one subject, with a score of 41%, the exercises were clearly too difficult, while for the other three subjects, with scores between 94% and 99%, the exercises were perhaps too easy. There was also considerable variation between answers for each for the different exercises, as shown in Table 1:

Table 1. Combined subject errors per exercise. (Where numbers and percentages do not tally, this is because the number of questions per exercise varied or because, for Set 2, one of the subjects did not do the exercises.)

Set	Exercise Source		Errors per exercise Number	%
	1X	Bank of E.	13	21.7
1.	1Y	Made-up	6	12.0
	1Z	Arts Faculty	6	10.0
	2X	Arts Faculty	18	33.4
2.	2Y	Bank of E.	11	23.1
	2Z	Made-up	0	0.0
	3X	Made-up	10	14.3
3.	3Y	Arts Faculty	9	12.9
	3Z	Bank of English	6	8.6

The highest number of errors per source of exercise was for the Arts Faculty

corpus exercises, with an average for the three exercises of 23.3%. This was followed by the Bank of English exercises at 17.8%, and by the made-up exercises at 11.4%. It should be noted, however, that for each set the first of the three exercises produced the highest number of errors, and the third the least. This does suggest that subjects' scores may not only be accounted for by the level of difficulty of each exercise; it might even suggest that the subjects were learning something! The scores did, however, suggest that the level of some of the exercises was unsuitable: 2X being too difficult and 2Z too easy.

Exercise evaluation

The evaluations of each exercise by the subjects are summarised in Table 2:

Table 2. Combined results of subjects' comparisons of exercises within each set

Set	Most Useful	Most Interesting	Least Interesting
1.	B.of E./Arts	Bank of English	Made-up
2.	Made-up	Made-up	Arts Faculty corpus
3.	Made-up	Made-up	Bank of English

Although the above results appear very clear, individual responses were not always so clear-cut. In addition, one subject was clearly rating the exercises from the perspective of a language teacher thinking of his students rather than as a language learner himself. If this subject's responses are discounted, the table appears as follows:

Table 3. Combined and adjusted results of subjects' comparisons of exercises

Set	Most Useful	Most Interesting	Least Interesting
1.	Bank of English	Bank of English	Made-up
2.	Made-up	Made-up	Arts Faculty corpus
3.	Made-up	Arts Faculty corpus	Bank of English

Reasons given for the preference of the Bank of English exercises (1X) in Set 1 tended to focus on the challenge it presented: that sentences were longer and more complex, and that there were unknown words in the sentences. In the same set, the made-up exercise (1Y) was judged to be least useful because it was seen as too easy. In Set 2, the made-up exercise (2Z) was preferred for its contrasts, the meaning of the sentences, the use of the words and its complexity. For Set 3, the made-up exercise (3X) was felt to be most useful and the Arts Faculty corpus exercise (3Y) most interesting, again because it was most complicated. The Bank of English exercise (3Z) was seen as repetitive.

Parallel Exercises?

Wherever possible, the aim was to provide subjects with sets of exercises in which each exercise was of the same level of difficulty, so that like could be compared with like. Despite efforts to do this, the completed exercises differ from each other in a surprisingly large number of ways, largely due to their different sources. We will see this as we look at the first set of exercises from the perspectives of lexis, cohesion, sentence length, and naturalness.

Lexis

The 'hardness' of a word, similar if diametrically opposed to the notion of 'coreness' (Carter, 1987: 35–42), varies according to the following:

Infrequency: e.g. *satellite* and *likelihood* in the Arts Faculty corpus exercise, or *brittle* in the Bank of English exercise.

Cognate in L1: e.g. in place of *wages* in the made-up exercise, *salary* would be more accessible to French, Italian or Japanese speakers.

Concrete/Abstract: compare two sets of words from the exercises: *biscuit,*

city, cream and *circle, criticism, structure.*

Culture: references to horse-shoeing, biscuit-making, and cream-making may make exercises easier or more difficult.

Cohesion

Beyond differences between individual lexical items, the degree to which the sentences in the three exercises can be said to be parallel depends on their internal cohesion. Lexical cohesion can be largely typified as collocation and reiteration of some kind. Significant collocation, the more than randomly coincidental co-occurrence of words in a text, is especially important in the sentence halves matching type of exercise such as 1X, 1Y and 1Z. Here is a list of some of the collocations in the three exercises:

1X: *friends... meeting; horse's foot... nail... shoe; biscuit... baking; satellite... dish.*

1Y: *city... traffic; wages... employees... work; rains... rivers.*

1Z: *milk... cream; statistical... numbers... accurate... conclusions; prices... bought; thought... belief.*

Considering the sentences in the exercises according to the types of cohesion identified by Halliday and Hasan (1976), we can see that the semantic links between the above collocations include those of subject and process, whole and part, and whole and aspect. Given the lack of context beyond the isolated sentences in the exercises, generally valid collocates may assist learners doing the exercises while "local context" or "restricted sense" collocates may be distracting or confusing. Examples of the former are *wages... employees... work* or *statistical... numbers... accurate...* conclusions, and of the latter are horse's *foot... nail... shoe* or *satellite... dish.*

Lexical cohesion in the form of reiteration, together with personal refer-

ence, may be helpful for students doing this type of exercise. In 1X, *the exercise... it* and, in 1Y, *the object... it* are examples of this. Especially in the real sentences drawn from corpora, where there is no referent for personal pronouns, there is often more repetition of personal pronouns or related modifiers:

1X: 1) *you... you... you;* 2) *it...it;* 3) *your... you.*

1Z: 3) *she... she;* 5) *it... it... it.*

While in some cases this repetition of pronominals may help learners, it may also be confusing as they look for the noun referent.

The sentence

The length and complexity of sentences in an exercise is one factor in determining how difficult it is. From a learner's perspective, the length of a sentence may not only contribute to making it difficult, it may also make it appear more daunting. This is the number of words per sentence in group 1:

Table 4. Number of words per sentence in Exercises 1X, 1Y, and 1Z.

Exercise	Shortest	Longest	Average
1X (Bank of English)	9	21	14.8
1Y (Made-up)	8	12	9.6
1Z (Arts Faculty corpus)	10	22	15.4

The above figures, in addition to observations about lexical hardness and intrasentential cohesion, confirm that the two corpus-based exercises would appear to be more difficult than the made-up exercise.

Naturalness

Naturalness is harder to specify than lexical hardness or grammatical correctness. Owen (1988), refining Sinclair's (1988) definition of naturalness,

suggests that non-natural sentences are "... either non-occurring in communicative discourse, or occur only in very particular circumstances which are fully specifiable". As the Bank of English sentences in 1X and the Arts Faculty corpus ones in 1Z have occurred in communicative discourse, they qualify as natural. Sinclair (1988) proposes that in addition to the above, a sentence's naturalness can be judged according to the parameters of neutrality, isolation and idiomaticity. If we look at one sentence in 1Y, we can see how its naturalness could be evaluated:

The cheaper something is the more likely it is to go wrong.

Neutrality: vague, not specific.

Isolation: isolated, no extrasentential references.

Idiomaticity: medium.

Although, as we have seen above, sentences that are too dependent on extrasentential information are not suitable for this type of exercise, neither is the presentation of sentences that do not reflect natural language use. For many foreign language learners, much of their early exposure to the foreign language is in the form of example sentences in dictionaries or grammars or in exercises such as those examined in this paper. It is, therefore, important, to consider the sentences themselves as an important medium for language learning generally, not just in terms of whether they illustrate, exemplify, test, or provide practice for a specific grammatical or lexical point.

Conclusions

To return to questions raised earlier in this paper, are teachers' reservations about using a corpus to make language practice materials justified? Or are the merits proposed by proponents of using a corpus valid? We will consider these in the light of responses by ESL users to exercises made using a corpus.

Reservations focused largely on the difficulty of exercises that would include

unknown vocabulary or syntax and unfamiliar cultural references. In fact, these aspects of corpus-based exercises seem to be both what students appreciate in the challenge and 'freshness' they provide, and what, in one case, may make exercises too difficult to do well. As for whether teachers may have the time and resources to make such exercises, this would depend very much on the circumstances of each teacher.

It is worth bearing in mind that as in Japan a large proportion of university entrance exams now include authentic materials which may include vocabulary or cultural information which needs to be guessed at, high school teachers would be well advised to prepare their students for these, and a corpus is a good place to look for materials. As with the exercises described in this paper, it is often possible to take a short cut and avoid extensive language analysis by referring to dictionaries, grammars or usage books in which this has already been done. Neither is it necessary to follow the purist stance adopted in this paper towards materials drawn from a corpus. If it is done with care, materials can be adapted, difficult words changed or omitted, and longer sentences shortened.

Is it all worth it? This is a question for the reader to decide.

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Appendix 1

1X

Make seven complete (and sensible!) sentences by matching the beginning of each one on the left with the most appropriate one on the right. The first one has been done for you.

1) The slower you eat	a) the greater the likelihood of meeting someone with whom you have a lot in common.
2) The further it is from the sun,	b) the shorter the length of time you'll be able to keep doing it.
3) The wider your circle of friends,	c) the longer the baking time.
4) The stronger the walls of a horse's foot,	d) the more you think you will have eaten.
5) The larger the biscuit,	e) the slower it travels.
6) The lower the power of the satellite signal,	f) the fewer the nails needed to keep the shoe in place.
7) The more intense the exercise,	g) the larger the dish diameter required.

1Y

Make seven complete (and sensible!) sentences by matching the beginning of each one on the left with the most appropriate one on the right. The first one has been done for you.

1) The larger the city	a) the higher the level of the rivers.
2) The cheaper something is	b) the harder employees will work.
3) The hotter the object gets	c) the worse the traffic.
4) The higher the wages	d) the stronger my determination.
5) The more it rains	e) the more it expands.
6) The greater their criticism	f) the more likely it is to go wrong.

1Z

Make seven complete (and sensible!) sentences by matching the beginning of each one on the left with the most appropriate one on the right. The first one has been done for you.

1) The wider and shallower the pan that you settle the milk in,	a) the harder it will be, but also the more brittle.
2) In all statistical matters, the larger the numbers,	b) the bigger the influence you have over the decision-making process.
3) The further down the hill she went,	c) the faster the cream will rise to the surface.
4) The lower real estate prices fell,	d) the more relaxed she became.
5) Generally, the higher you heat it and the quicker you cool it,	e) the more accurate the conclusions.
6) The higher up you are in the structure.	f) the stronger the belief became.
7) The more he thought about it,	g) the more they bought.

2X

Complete each of the sentences below. Use *the* together with the most appropriate adjective from the list. Use each adjective only once (except for sentence no. 6, when the same adjective should be used twice). The first one has been done for you.

inevitable obvious unknown
impossible unexpected unthinkable

1) The next morning she accepted ... *the inevitable* ... and resigned.
2) They might, by some error or disruption of the schedule, have glimpsed ..... .
3) But spotting a chemical hazard isn't just a matter of ..... like a strong smell or irritating fumes.
4) Then, on December 25th 1986, ... seemingly ..... happened.
5) Earlier that day he had warned us to expect ..... .
6) While television is more likely to define ....., ... is more likely to be misunderstood.

2Y

Complete each of the sentences below. Use *the* together with the most appropriate adjective from the list. Use each adjective only once. The first one has been done for you.

bizarre	impossible	obvious	unexpected
exotic	inevitable	supernatural	unknown

1) Kawaguchi's behaviour, always erratic, now bordered on ... *the bizarre* ... .
2) 'So Vescovo had a gun,' said Martello, stating .....
3) I think he has a taste for .....
4) They had driven off into ....., towards a place that officially did not exist.
5) No one can achieve .....
6) They were interested in ..... and looking for UFOs.
7) Expect .....
8) Nature always seems cruel and heartless when we are faced with .....: death.

2Z

Complete each of the sentences below. Use *the* together with the most appropriate adjective from the list. Use each adjective only once. The first one has been done for you.

imaginary	modern	ordinary	unexpected
impossible	obvious	real	unknown

1) It's better to state ... *the obvious* ... than to forget it.
2) I'm sorry but it's beyond my power. Why do you always want ..... .
3) It would be a pity if we lost our traditions in a blind acceptance of ..... .
4) In madness, the line between ..... and ..... is not so clear.
5) Everyone is a little afraid of .....; it's only natural.
6) While others do ....., he does ..... . That's why he's a great player.

3X

In each of the sentences below, only one of the underlined noun groups is appropriate. Cross out the one that is wrong. The first one has been done for you.

1) What time does Annie normally go to school/the ~~school~~?
2) Annie's parents went to school/the school to speak to the teachers last week.
3) When David leaves school, he wants to study economics at university/the university.
4) Sue went to prison/the prison to visit John last month.
5) My mother has gone into hospital/the hospital for an operation.
6) The ABC Cinema is opposite hospital/the hospital.
7) Jill isn't a religious person. She never goes to church/the church.
8) Fred robbed a bank but was caught by the police. He was sent to prison/the prison.

3Y

In each of the sentences below, only one of the underlined noun groups is appropriate. Cross out the one that is wrong. The first one has been done for you.

1) He goes to bed/~~the bed~~ very early, you know.
2) The principal has always wanted to put college/the college on the map.
3) The first time he slept in church/the church he felt a little homesickness but this did not last long.
4) When I was at school/the school at Westminster my great friend was Arnold Haskell.
5) She came to tell me that my mother's in hospital/the hospital in London.
6) ... and four unused petrol bombs were found near prison/the prison yesterday.
7) So, for example, if it costs a lot less to put you in hospital/the hospital than to redesign a machine then your employer may not be breaking the law.
8) ... children who did not even understand the language of the school/school, which was French.

3Z

In each of the sentences below, only one of the underlined noun groups is appropriate. Cross out the one that is wrong. The first one has been done for you.

1) Both of them found work in ~~hospital~~/the hospital.
2) She could not imagine people going to church/the church looking so dull and unhappy.
3) The door was closed when I went to bed/the bed.
4) We drove to university/the university, opposite which was a Zen temple.
5) Rusty moved close to bed/the bed.
6) People get sent to prison/the prison for that sort of thing, you know.
7) How are we going to get from the church/church for the reception?
8) I wanted to go to university/the university but I wanted to be an actor more.

Appendix 2

6.5 Institutions in society

There are certain establishments of human society which are referred to without an article when we think of them as institutions in general rather than as specific buildings or individual places.

He was finally admitted to hospital with an ulcerated leg.

... after our first victory in court.

Here is a list of words which can be used like this:

church college court hospital jail prison school university

Normally when you are using these words to talk about buildings they are count nouns and article use with them is straightforward. But when you want to suggest they are being used for their intended purpose there is no article; that is, worshipping in church, studying in school or college or university, receiving medical care in hospital, being a prisoner in prison or jail, legal action in court. Often there is a different way of expressing the idea: 'She's at university' is similar to 'She's a student'.

Here are some more examples.

His parents couldn't afford to send him to university. He left school at seventeen.

...to decide whether to go to court or not. In the morning all the peasants went to church.

After 11 days in prison they were released. ... once he is taken home from hospital.

There are some differences between British and American usage here. Firstly, Americans say 'the hospital' instead of 'hospital' for institutional references. Secondly, the word 'university' is not used this way; the American equivalent of 'at university' is 'in college'.

'Bed' behaves in a similar way; without an article it means the place where we sleep or rest, not a particular object.

She went to bed and slept lightly.

8.9 The definite article with adjectives meaning 'something...'

Although the head of a noun group is usually a noun, there are situations where an adjective can have this role. One case is described in 5.5. Another case is where the definite article is used in front of an adjective to mean something with that quality. The first example below means 'People asked him to do things which were impossible'.

People asked him to do the impossible. Politics is the art of the possible.

It merely states the obvious. ...confused and afraid of the unknown.

The following adjectives are often used after the definite article in this way:

bizarre	exotic	impossible	incredible	inevitable	new
obvious	old	possible	ridiculous	sublime	supernatural
unbelievable	unknown	unexpected	unreal	unthinkable	

Note This use is different from that in Section5.5, where adjectives are used to refer to groups of people.

8.10 The definite article with comparative adjectives and adverbs

The definite article is used with comparative adjectives and adverbs to indicate how a difference in something involves a difference in something else.

The simpler the motion or operation, the better the worker will perform it.

The more radical the change, the steeper the price.

The more the TUC came under attack, the stronger it grew.

There are some fixed expressions like: 'the more the merrier' (which usually means that you want as many people as possible), 'the sooner the better' (which means that you want something as soon as possible), and others where the second part is '...the better' (which means that you want something with as much of a particular quality as possible).

What's one more when you already have five? The more the merrier.

I'd be deeply grateful if you'd let me know — the sooner the better, please.

A doctor is pleased to answer any question he can, the easier the better.

You can also use the definite article in front of one comparative adjective or adverb, especially after 'all' to emphasize that something will affect a situation.

You'll sleep the better for it. We'll have him back here all the quicker if you cooperate with us. His longing was all the more agonizing because he could speak of it to no-one.

Appendix 3

Set 1

1. Which exercise did you feel was most useful for you, 1X, 1Y, or 1Z?

   1X 1Y 1Z

2. Which of the three exercises did you find most interesting?

   1X 1Y 1Z

   What did you find interesting about that exercise?

3. Which exercise did you find least interesting?

   1X 1Y 1Z

   Why?

4. Were there any other particularly good points about 1X, 1Y, or 1Z?
5. Were there any other particularly bad points about 1X, 1Y, or 1Z?
6. Finally, what do you think is the basic difference between the three exercises?

N.B. Evaluation sheets for Sets 2 and 3 were the same as that for Set 1 above.