Getting Help from Corpus Examples[1]

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1. Introduction

One of the most distinguishing characteristics of corpus-based dictionaries is that most entries contain example sentences or phrases that have been copied or adapted from corpora. Although the presence of examples in dictionaries is generally regarded as positive (for example, see Béjoint 1981, Fox 1987, Humblé 2001 and Kilgarriff et al. 2008), the body of evidence about their actual benefits is limited and inconclusive.

Summers (1988) compared the effects of definitions only, examples only and definitions plus examples on language comprehension and production, and found that the differences were not statistically significant. A few years later, Laufer (1993) tested comprehension by asking students to translate words into their native language, and then asked the students to produce sentences with those words to test them for production. In the comprehension test, the effects of the definitions plus examples were slightly better than those of just definitions, which in turn were better than those of just examples. In the production test, the combination of examples plus definitions also produced the best results, but the differences between presenting learners with just examples or just definitions were not significant. Nesi (1996) asked 40 learners of English to produce sentences with 18 difficult words with the help of the *Longman Dictionary of Contemporary English* (LDOCE), but the examples present in nine of the entries were removed. Much against her expectations, she found that the dictionary examples did not have a significant influence on language production.

One of the main reasons why all three of the above studies present inconclusive evidence about the value of examples could be that they do not make a clear-cut distinction between decoding and encoding. As Summers (1988: 122) herself points out, in her experimental work, the "students were asked to do production tests for words which they also needed to look up for comprehension". This is also true for the related studies carried out by Laufer (1993) and Nesi (1996), where learners were required to produce sentences containing words that were not familiar to them in the first place, which is something that does not usually happen in real life.

Another important problem might have to do with the very nature of the examples provided by dictionaries. For Humblé (2001:61-62), there is a difference between the kind of example learners need for encoding and the ones they need for decoding: "A decoding learner is interested in the meaning of a lexical item, whereas an encoding learner is interested in a word's syntactic features and collocates." According to his analysis of five monolingual English learners' dictionaries, the examples given tend not to deal with encoding and decoding needs in a satisfactory way. In fact, examples aimed to help learners with encoding by illustrating collocates and syntactic features can introduce an extra layer of complexity that might even end up compromising decoding.

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[1] The full version of this short paper will soon be available at Frankenberg-Garcia (forthcoming).

This is what seems to have happened in the study by Al-Ajmi (2008) on the effects of dictionary examples on comprehension. The participants in that study were asked to translate ten English words into their native Arabic. Half the subjects definitions from the *Oxford Advanced Learners' Dictionary* (OALD) plus examples, while half consulted just definitions. The translations produced were then checked for correctness against an English-Arabic bilingual dictionary, and Al-Ajmi noted that the dictionary examples had a negative influence on comprehension. These results come as no surprise. Because the examples given in dictionaries such as the OALD often provide added value to the core meaning expressed by definitions, the translations of those examples might not correspond to the more general translation equivalents favoured by bilingual dictionaries.

Thus despite lexicographers' consensual recognition of the value of examples and their high level of face validity among dictionary users, research in the field presents unconvincing, contradictory and inconclusive results. I would therefore like to revisit the idea of testing the usefulness of corpus-based examples, but this time keeping words tested for comprehension and words tested for production apart, and differentiating between examples meant to help comprehension and examples intended to help production. And because a single example is often not enough to help people understand what a word means or how it is used, I would also like to test the value of presenting learners with multiple corpus examples.

2. Method

The subjects participating in the present experiment were 48 second year undergraduates studying for a degree in Tourism at a Portuguese university. Common European Framework of Reference levels ranged from B1 to B2. The students were randomly assigned to three different experimental groups and one control group. Each group was required to do the comprehension and the production error tests that shall be described next. The first experimental group consulted dictionary definitions, the second group accessed a single corpus example per test item, and the third group referred to three corpus examples per test item. The fourth, control group took the tests without any references at all.

The following ten words were tested for comprehension: *grim, dwindle,listed* (adj)*, feigning, portly, mulish, plunder, slackened, brooding* and *denizen.* These words satisfied the following two criteria after having been selected from a list of low-frequency words generated at random: (1) they did not have a cognate in Portuguese (since all participants were either native speakers of Portuguese or had a good command of the language), and (2) they were unknown to a similar group of students. The words tested were presented in bold in the naturally-occurring context of a sentence taken from a general English corpus (the BNC, COCA or UKWaC)[2], some of which were slightly shortened or adapted in order to remove contextual clues that would allow the students to infer what the target words meant. The students were required to select the best Portuguese translation for those words in a multiple-choice test. To exemplify this, below is the test question for *feigning*.

*I lie back on the grass, **feigning** indifference.*

(   ) olhando com   (   ) reagindo com   (   ) simulando

While the co-text allowed the participants to infer which part-of-speech category the words being tested belonged to (in the above example, a verb), care was taken to make sure that the sentence itself was vague enough to prevent the students from deducing meaning. The distractors in the multiple-choice options were chosen with the help of the DeepDict tool[3] (Bick 2009) so that all three options fit the context of the sentences supplied. For example, in the above sentence, the three verbs in the multiple-choice options collocate frequently with *"indiferença"* (*indifference*), but only the last one is the translation of *feigning*.

The following ten words were then selected to test the students' ability to correct typical language production errors: *appreciate, order* (noun), *call* (verb), *foot* (unit of measure), *contract* (noun), *match* (verb), *opposite, recommend, disapprove* and *good.* These words did not pose any problems of comprehension, but at the same time were tricky enough for the students to have problems using them correctly in certain specific contexts. For example, the students had no difficulty in understanding the verb *call* meaning *to telephone,* but because of the influence of Portuguese, they often produced the error *to call someone to* (rather than *at* or *on*) *a particular number*. The words tested for production were presented to the students in the context of sentences taken from general English corpora (again, the BNC, COCA or UKWaC) and then modified so as to exhibit frequent errors involving the use of those words that had been previously observed in class. To exemplify this, below is the test question for *call*.

Please call me to 919934487 if you have any questions.

The participants were informed that the sentences in the production errors test contained one mistake each and were asked to correct them. In the test question for *call* above, this would involve replacing the preposition *to* with *at* or *on*. If the students were unable to spot the mistake, they were told to leave the sentence unchanged and move on to the next test item.

In both tests (comprehension and production errors), the experimental group that was allowed to consult dictionary definitions was given a reference sheet containing definitions copied from the electronic version of the Longman Dictionary of Contemporary English (LDOCE), fourth edition. Only the senses that were relevant to the test items in this study were given to the students. This was especially important in the case of polysemous words with long and complex entries, as the students might otherwise fail to find the relevant dictionary information by themselves. For example, the noun *order* has 25 main sense distinctions in the LDOCE, but only the seventh one (*a request by a customer for a company to supply goods*) was included in the reference sheet.

The two experimental groups that were allowed to consult corpus examples were in turn supplied with reference sheets containing full-sentence concordances selected from general English corpora (again, the BNC, COCA and UKWaC)[4]. The concordances selected for the words tested for comprehension provided contextual clues about the meanings of the words tested. For example, the following concordances were used to help the students understand the meaning of *dwindle*:

*The number of readers began to **dwindle** well before the economic crisis.*
*The chances of getting back any of the money had **dwindled** to just about nothing.*
*There were fewer boats docked every year, **dwindling** from fifteen to seven in as many years.*

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[3] Available at http://gramtrans.com/deepdict/
[4] A few concordances were shortened.

The concordances selected for the production errors test did not necessarily provide contextual clues about meaning, but focused instead on the target syntactic features and/or collocates of the words in the test. For example, to illustrate that you call someone *at* (or *on*) rather than *to* a particular number, the following concordances were used[5]:

__Call__ him directly at 214-555-049 to give him your response.
If you or someone you know is wrestling with these issues, give us a __call__ at 800-989-8255.
For information or directions, __call__ the church at 281-297-5900

The experimental group referring to a single corpus example was given just the first concordance of each set of three.

The experiment was carried out in test conditions. When marking the tests, one point was given to each corrected sentence in the production errors test and to each correct answer in the multiple-choice comprehension test.

3. Results
The results for the comprehension test are summarized in table 1, and the results for the the production errors test are summarized in table 2.

Group	Mean Score (out of 10)	Standard Deviation	Range	Median
Control	3.17	0.94	2-5	3
Definitions	8.25	1.06	6-10	8
Single corpus example	4.58	2.39	1-9	4
Multiple corpus examples	8.08	1.93	3-10	8.5

Table 1. *Comprehension test results.*

Group	Mean Score (out of 10)	Standard Deviation	Range	Median
Control	0.25	0.62	0-2	0
Definitions	0.33	0.49	0-1	0
Single corpus example	4.08	3.06	1-10	3.5
Multiple corpus examples	7.00	1.81	3-10	7

Table 2. *Production errors test results.*

The results in table 1 indicate that dictionary definitions helped the students with language comprehension more than a single corpus example, which is in accordance Laufer's (1993) findings. However, despite the fact that dictionary definitions constitute what is probably the most efficient way of summarizing word meaning, in the present study they cannot be said to have aided comprehension more than multiple corpus examples. While one example was not enough to aid comprehension in any significant way, three corpus examples seemed to do the trick.

In the production errors test, the results summarized in table 2 were very different from those of studies where students were required to create original sentences

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[5] Corpus evidence from COCA and the BNC suggests that *to call someone at particular number* is the preferred form for American speakers, while British speakers tend to favour *to call someone on a particular number.* The concordances selected for this particular test item were purposefully just examples of *call at* so as to avoid raising awareness to an added complication that was not relevant to the present test.

with previously unknown words. Neither Summers (1988), nor Laufer (1993), nor Nesi (1996) were able to find any substantial evidence in support of the use of examples in language production. In the very different circumstances under which language production problems were approached in this study, resorting to corpus examples made all the difference. A single corpus example helped the students use those words appropriately more than definitions, and multiple corpus examples helped even more.

4. Conclusion

Almost 25 years ago, Summers's original experiment on the use of examples was motivated by the wish of the Longman team "to test the proposition that an ELT dictionary consisting only of examples would be more helpful than the usual combination of abstract definition plus examples" (Summers 1988:118). On the basis of that experiment, they "did not feel that the examples-only approach would be an improvement in ELT dictionaries" (Summers 1988:122).

Although the present study made no attempt to test the value of combining examples with other dictionary information, the results obtained suggest that it is quite possible for learners to understand new words and correct their own frequent mistakes by looking at examples alone, in what has come to be known among the teaching and language corpora community as data-driven learning (Johns 1991). Although a single concordance may not be enough, multiple concordances helped the students participating in the present experiment understand new words as much as dictionary definitions did, and also made a big difference when it came to helping them to correct the use of words that they understood but frequently misused.

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