

When You Are Explaining the Meaning of a Word: The Effect of Abstract Noun Definition Format on Syntactic Class Identification

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Abstract

In recent years, a new lexicographic defining practice has been gaining in popularity in monolingual English learners' dictionaries, that of explaining the meaning of certain abstract nouns with the help of a single-clause *when*-definition. The present study attempts to investigate the role of the definition of this format, placed in a complete microstructure, in conveying information on the part of speech of nominal headwords. To achieve this aim, tests were designed and run on several groups of Polish learners of English at the intermediate level. Balanced parallel forms were employed, where single-clause *when*-definitions were contrasted with their closest analytical analogs in full dictionary entries. It was found that both the new and the classical definition formats resulted in comparably frequent correct POS identification of the headword nouns. This is in stark contrast to the results yielded by Lew and Dziemianko's research (in press), which has inspired the present analysis, where the definition formats were investigated in isolation from other components of the microstructure.

1 Introduction

In recent years, a few English monolingual learners' dictionaries have introduced a new lexicographic definition format for certain abstract nouns, that of a single-clause *when*-definition, as in the following definition of the word **ascent** taken from CALD2: 'when someone starts to become successful'.¹ Although the new format is recent indeed, the potential of the single-clause *when*-definition for conveying information on the part of speech of nominal headwords has already inspired some empirical research. Lew, Dziemianko (in press) show

¹ This single-clause definition format, which can be found in CALD1, CALD2, CLD and LDOCE4, should not be confused with the more elaborate two-clause *when*-definition, also known as contextual or full-sentence definition, introduced on a large scale in the COBUILD dictionaries for foreign learners. For a comparison of the form of the two definition types, a discussion of their origin and more on theoretical background see Lew, Dziemianko (in press).

that the new type of definition, which cannot be substituted for the word being defined, proves much less useful as a source of part of speech information on nouns than the analytical definition, which is usually substitutable. This conclusion follows from an experimental study involving 129 upper-intermediate or advanced Polish students of English. Their ability to recognize the basic grammatical class of nominal headwords defined by single-clause *when*-definitions and analytical definitions was measured in two tasks, which consisted in supplying Polish equivalents of the English lemmata and composing English sentences with the use of the words defined. The results yielded by the two operationalizations were similar inasmuch as in both of them analytical definitions proved to be twice as useful as single-clause *when*-definitions.² Still, the design of the study does not take account of sources of grammatical information other than definitions, such as grammar codes or examples, which have been shown to play a role in the process of extracting syntactic information from the microstructure (Bogaards, Van der Kloot 2002; Dziemianko 2006). The present investigation tries to answer the question whether the disadvantage of the single-clause *when*-definition as a source of information on the grammatical class of nominal headword compared with the analytical definition is still practically important in entries with a richer microstructure. Moreover, it sets out to provide an answer with the help of subjects who are not university students of English, and thus may be assumed to be largely ignorant of English lexicographic traditions.³

2 The hypothesis

The single-clause *when*-definition has not yet served extensively as a basis for empirical research, and the study by Lew and Dziemianko (in press) appears to be the only experimental one where the usefulness of the definition format for conveying part of speech information was analyzed and juxtaposed with the usefulness of analytical definitions in this regard. Still, in the absence of any complete microstructure in that study, the null hypothesis of no statistically significant difference in the usefulness for conveying part of speech information between the single-clause *when*-definition and the analytical definition, when placed in an entry, is adopted below.

3 Design and materials

In order to investigate the effect of definition format (analytical versus single-clause *when*-definitions) on the recognition of the part of speech of headwords, test sheets were prepared, each containing a list of twenty headwords with their definitions. Half of these were target items: carefully selected nonce words posing as nouns. The remaining ten items, actual low frequency adjectives and verbs with their definitions, were included to make the target items less salient as well as to conceal the fact that they were nonce words. The order of the

² Details are given in Section 6. below.

³ Students' of English familiarity with this lexicographic tradition could have influenced the results obtained in the previous study (Lew, Dziemianko, in press).

target items as well as their position relative to the distractors was randomized. Five target items were accompanied by *when*-definitions, the other five by analytical definitions. Two versions of the test sheet were prepared, differing in the assignment of definition format to specific target items, so that each subject was exposed to both *when*-definitions and analytical definitions, and each target item was presented with both definition formats in equal measure, producing a counter-balanced design.

The use of nonce words for target headwords was to ensure that subjects did not have any knowledge of the items that could help them to derive the POS information. Care was taken to select constructions morphologically neutral with respect to the word-formation patterns typical of a specific syntactic class, so as not to provide our subjects with any undesirable hints in this regard.

Definitions of all test items were based on those given in the most popular English learners' dictionaries (CALD1, CALD2, CLD, LDOCE4, MEDAL, OALDCE6, OALDCE7), modified in order to make the paired *when*-definitions and NP-definitions maximally parallel except for the tested criterial feature. The target items and definitions were the same as in Lew, Dziemianko (in press). Unlike in our previous study, however, part-of-speech labels, other functional labels, mainly syntactic codes, example sentences and, where applicable, usage labels were supplied, and the task was different.

4 Subjects

All data were collected in April and May 2005 from 238 native speakers of Polish receiving EFL instruction in 23 different learner groups from various schools around Poland, most being at the intermediate level of proficiency in English.

5 Procedure

The subjects were asked to complete a single multiple-choice task using the entries provided. For each entry, a choice of three Polish equivalents were given, all related in that they represented three different parts of speech, i.e., adjectives, nouns and verbs, in this order, all derived from the same root. 45 minutes were allowed for the completion of the test. All responses were entered into a relational database and fed into a statistics package for further processing.

6 Results

Overall, as well as detailed per-item syntactic class identification accuracy rates for all target items are presented in Table 1.

item definition	3	4	7	8	10	13	14	16	17	19	Total
analytical	82.5%	85.6%	88.3%	88.1%	85.0%	83.3%	86.4%	88.1%	83.3%	90.7%	86.1%
when	84.7%	83.3%	88.1%	85.8%	85.6%	86.4%	83.3%	86.7%	83.1%	86.7%	85.4%
Overall	83.6%	84.5%	88.2%	87.0%	85.3%	84.9%	84.9%	87.4%	83.2%	88.7%	85.8%

Table 1. Syntactic class identification accuracy rates for all target noun items

The overall figures show that exposure to analytical definitions resulted in correct syntactic class identification across all our target items in 86.1% of cases, while the corresponding accuracy rate for single-clause *when*-definitions stands at 85.4%. This effect of definition type turned out to be nonsignificant (one-way ANOVA, $F(1,236)=0.73$, $p=ns$). But, in fact, the difference in syntactic class identification accuracy rates in our sample between the two definition formats is so small (less than 1%) that it would be of no practical significance, even if statistically significant. This stands in stark contrast with the results of our original study (Lew, Dziemianko in press), where the accuracy rate for analytical definitions was much higher compared to single-clause *when*-definitions (66.7% versus 33.2%, respectively, for the supply-equivalent task; and 53,6% versus 26,6%, respectively, for the compose-sentence task).

As can be seen from the above figures, overall accuracy rates were also distinctly higher than in our original study, even though the proficiency level of the subjects was lower in the present study. This may be due to the more syntax-focused tasks and/or the richer microstructure in the present study.

Table 1 above reveals a remarkable degree of consistency in accuracy rates across items, all of them fitting within the 83%-89% range. Again, this is very much unlike in our original study, where accuracy rates ranged from 23% to 96% across items.

7 Discussion and conclusions

The results of this first follow-up study to Lew, Dziemianko (in press) throw new light on the issue of the role of single-clause *when*-definitions in conveying syntactic class information. Unlike in our first study, no significant differences were found between subjects' performance with, on the one hand, entries with analytical definitions, and, on the other, those with single-clause *when*-definitions. We must now look at the differences between the two studies in order to offer our best interpretation as to the reasons why the two studies have produced such radically contrasting results.

Firstly, in our follow-up study we have included a richer microstructure, the crucial difference lying in the inclusion of syntactic class labels (*verb, noun, adj.*). By doing so, we have provided a rather explicit indication of syntactic class in the entry microstructure for those dictionary users who are able to identify and use it appropriately.

Secondly, the task employed in the present study is radically different: we have now asked the subjects to select between three Polish equivalents, all derivatives from the same root differing only in their syntactic class. Thus, semantic information is now given to the subjects (except that part thereof which regularly correlates with syntactic class membership). Furthermore, subjects no longer have to engage their mental lexicon in a search for Polish equivalents, nor do they have to compose any sentences or other construction. All in all, they can focus on syntactic class membership alone.

Thus, some experimental conditions in the present study are more naturalistic (a fuller microstructure), and others are less naturalistic (a rather artificial task focused on syntactic class identification), than the experimental conditions in Lew, Dziemianko (in press). Overall, the modifications to the design of our original study all conspire to facilitate the extraction of correct syntactic class information. In fact, there is yet another element that facilitates

syntactic class extraction: we have not included any phonetic transcription in our microstructure, thus placing the syntactic class label in a salient position immediately following the lemma sign.

In our original study we emphasized the need

to test how a (more) complete microstructure influences the role of definition type in part of speech recognition, and in particular – whether single-clause *when*-definitions are then still much less helpful to dictionary users than analytical ones, or whether users can somehow sense the problem and compensate for it by referring to other elements of the article microstructure for guidance on syntactic class. (Lew, Dziemianko in press: no page)

Our present study gives a tentative answer to the question we posed then: our dictionary users have indeed been able to compensate for the syntactic inadequacy of single-clause *when*-definitions by referring to other elements of the microstructure, but under conditions strongly conducive to such compensation, rather more strongly than is the case in typical situations of dictionary consultation. There is a suspicion that our subjects approached the task not so much in terms of normal dictionary consultation, but rather as a kind of *metalexigraphic* task somewhat along the lines of *Let's see if you know where syntactic class information is located in a dictionary entry*. What compels us to take such a possibility seriously is the finding that syntactic class labels were by far the most frequently consulted elements of the microstructure, much more so than definitions or examples.⁴ This pattern of consultation appears to diverge from that found in previous studies of dictionary consultation for syntactic information, notably Dziemianko (2006), where syntactic codes were found to be the least consulted of all by intermediate learners, although, admittedly, not advanced and proficient ones, who preferred codes to definitions.⁵

Our present results may be seen as mildly encouraging to lexicographers since they suggest that Polish intermediate students of English, who could not have been very familiar with the English lexicographic tradition, apparently possess fairly satisfactory reference skills (of the type relevant in the present context, at least), as they can extract syntactic class information from entries with high accuracy. In doing so, they are able to fully compensate for the syntactic-information vacuity (demonstrated in our original study) of the new single-clause *when*-definitions. We would still like to know, though, if such compensation would remain to be effective under less syntax-focused task conditions, and when the salience of the syntactic class label were reduced by separating it from the lemma sign with the phonetic transcription in its customary location. Another follow-up study is needed to fully clarify this issue.

⁴ As indicated by preliminary analysis of this aspect at the time of writing up the final version for this volume; we hope to be able to present more complete results at the Congress.

⁵ It should be remembered that part of speech labels are very different from syntactic codes, which convey much more information on the syntactic patterning of headwords. Hence the tentativeness of the parallel. Nonetheless, the fact that explicit functional labels meet with such different appreciation is no doubt worth pointing out.

References

A. Dictionaries

- Gillard, P. (ed.) (2003), *Cambridge Advanced Learners' Dictionary*. (1st edition.) Cambridge, Cambridge University Press. (CALD1)
- Walter, E. (ed.) (2005), *Cambridge Advanced Learners' Dictionary*. (2nd edition.) Cambridge, Cambridge University Press. (CALD2)
- Gillard, P. (ed.) (2004), *Cambridge Learner's Dictionary*. Cambridge, Cambridge University Press. (CLD2)
- Summers, D. (ed.) (2003), *Longman Dictionary of Contemporary English*. (4th edition.) Harlow, Longman. (LDOCE4)
- Rundell, M. (ed.) (2002), *Macmillan English Dictionary for Advanced Learners*. Oxford, Macmillan Education. (MEDAL)
- Wehmeier, S. (ed.) (2000), *Oxford Advanced Learner's Dictionary of Current English*. (6th edition.) Oxford, Oxford University Press. (OALDCE6)
- Wehmeier, S. (ed.) (2005), *Oxford Advanced Learner's Dictionary of Current English*. (7th edition.) Oxford, Oxford University Press. (OALDCE7)

B. Other literature

- Bogaards, P., Van der Kloot, W. A. (2002), 'Verb Constructions in Learners' Dictionaries', in Braasch, A. and Povlsen, C. (eds.), *Proceedings of the Tenth Euralex International Congress, Euralex 2002, Copenhagen, Denmark, August 12-17, 2002, Vol.2, 747-757*. Copenhagen: Center for Sprogteknologi, Copenhagen University.
- Dziemińsko, A. (2006), *User-Friendliness of Verb Syntax in Pedagogical Dictionaries of English. Lexicographica Series Maior 130*. Tübingen, Niemeyer.
- Lew, R., Dziemińsko, A. (in press), 'A New Type of Folk-Inspired Definition in English Monolingual Learners' Dictionaries and Its Usefulness for Conveying Syntactic Information.' *International Journal of Lexicography* 19.3.

Appendix

Initial fragments of the two versions of test sheets with the instruction and its English translation

Version 1

Instrukcja: Poniżej znajdziesz 20 słów angielskich. Są to słowa trudne, w większości nie będą Ci znane, ale dla każdego z nich podano po znaku „▶” hasło słownikowe. Na podstawie informacji w hasle dla każdego ze słów angielskich wybierz jeden z trzech odpowiedników polskich podanych pod hasłem, a, b, lub c, który, Twoim zdaniem, najlepiej pasuje do danego słowa. Ponadto podkreśl tę informację w hasle, która pomogła Ci podjąć decyzję i udzielić odpowiedzi.

1	<p>forlorn ▶ <i>adj. (literary)</i> seeming lonely and unhappy: <i>She looked a forlorn figure standing at the bus stop.</i> a. żaloszny b. żalność c. żalować</p>
2	<p>emblazon ▶ <i>verb [T] [usually passive]</i> to print or decorate something in a very noticeable way: <i>The sponsor's name is emblazoned on the players' shirts.</i> a. ozdobny b. ozdoba c. ozdabiać</p>
3	<p>stinch ▶ <i>noun [U, C]</i> a formal decision to no longer believe in something, live in a particular way etc: <i>The talks were dependent on a stinch of terrorism.</i> a. porzucony b. porzucenie c. porzucić</p>
4	<p>quasant ▶ <i>noun [U]</i> when you cannot make a decision: <i>There were weeks of quasant about who would go and when.</i> a. wahający się b. wahanie się c. wahać się</p>

Version 2

1	forlorn ▶ <i>adj.</i> (<i>literary</i>) seeming lonely and unhappy: <i>She looked a forlorn figure standing at the bus stop.</i> a. żaloszny b. żaloscé c. żalować
2	emblazon ▶ <i>verb</i> [T] [usually passive] to print or decorate something in a very noticeable way: <i>The sponsor's name is emblazoned on the players' shirts.</i> a. ozdoby b. ozdoba c. ozdabiać
3	stinch ▶ <i>noun</i> [U, C] when someone makes a formal decision to no longer believe in something, live in a particular way etc: <i>The talks were dependent on a stinch of terrorism.</i> a. porzuony b. porzucenie c. porzucić
4	quasant ▶ <i>noun</i> [U] the state of being unable to decide: <i>There were weeks of quasant about who would go and when.</i> a. wahający się b. wahanie się c. wahać się

English translation of the instruction:

Instruction: Below you will find 20 English words. They are hard words, so you will not be familiar with most of them, but each of these words is supplied with a dictionary entry after the "▶" symbol. Using the dictionary information, select one of three Polish equivalents given under a, b, or c, that which best fits the entry word. Also, underline those parts of each entry which has helped you decide and answer the question.