



Words with Multiple Meanings in Authentic L2 Texts: An analysis of *Harry Potter and the Philosopher's Stone*

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ABSTRACT

Dictionary studies have suggested that nearly half of the English lexicon have multiple meanings. It is not yet clear, however, if second language learners reading English texts will encounter words with multiple meanings to the same degree. This study investigates the use of words with multiple meanings in an authentic English novel. Two samples of content words with at least two dictionary meanings were drawn from J.K.Rowling's Harry Potter and the Philosopher's Stone. The two samples consisted of 150 words in total with 50 words in each of the three content word categories of nouns, verbs and adjectives. Using two major advanced English learner dictionaries, each word was coded as having been used either in a primary meaning or a secondary meaning in the book. A word was coded with a primary meaning if the meaning of the word in the book matched the first meaning cited in both dictionaries. Any other meaning was coded as secondary. The results suggested that around one third of the sampled words were used in a secondary sense and secondary meanings tended to be more common in adjectives and verbs. Furthermore, there was a greater tendency of adjectives to be used in a secondary meaning at the beginning than the rest of the book. It was suggested to be important for L2 learners to learn how to deal with multiple meanings in context.

INTRODUCTION

The magnitude of the learning burden facing English language learners aiming to acquire the vocabulary of English is significantly increased by the fact that there is often more than one meaning to learn for many of the words. Previous research (Britton, 1978; Ozturk, 2016) has shown that multiple meanings (polysemy and homonymy) are widespread in English. Britton's study (1978) has revealed nearly half of the words (44%) in a sample of 257 words drawn from an unabridged English dictionary to have multiple meanings. Ozturk (2016) has investigated the extent of multiple meanings in a subsection of English vocabulary which includes higher frequency words and therefore, often regarded as more relevant to EFL learners. She terms this 'EFL lexicon' and defines it as covering the two subsets of English vocabulary proposed by Schmitt & Schmitt (2012): 'high frequency vocabulary' (the most frequent 3,000 words) and 'mid-frequency vocabulary' (words in 4,001-9,000 frequency range). A dictionary check of a sample of words drawn from the two subsets indicated that multiple meanings were more common among high frequency words: 95% of the high frequency vocabulary and 48% of the mid-frequency vocabulary had more than one meaning. Furthermore, the number of meanings per word was greater for high frequency vocabulary. While mid-frequency words had 2.49 meanings on average, high frequency words had 4 to 5 meanings.

Although dictionaries abound with words that have multiple meanings, it is not clear whether these multiple meanings are also widespread and pose a major challenge to learners in actual texts. Dictionaries seek completeness in their inclusion of word meanings which have varying frequencies in the language and are spread over different registers and contexts of use. Learners interact with actual texts and it is not certain that they will encounter multiple meanings to the same degree as suggested by a dictionary count. The use of words with multiple meanings in real language has not been addressed in previous research. The study reported below aims to investigate the extent of multiple meanings in an authentic English novel, *Harry Potter and the Philosopher's Stone*, which is believed to be popular with EFL learners.

The investigation of multiple meanings in context presents a different challenge from a dictionary study as words do not normally have multiple meanings in context. Usually, a given word in a written text will obtain only one of its several meanings listed in a dictionary. Multiple meanings will become an issue only when the learner has knowledge of one meaning of a multi-meaning word but is not familiar with the meaning used in the text. As language teachers, we would hope our learners to learn this new meaning from context, but a study by Kang (1993) suggested otherwise. In a study of 10 Korean graduate students in two American universities with relatively advanced proficiency in English, Kang (1993) has shown that L2 learners frequently misinterpret the text when the textual meaning of a word is different from the meaning they are familiar with. Reading a short story by H.H. Munro, Kang's subjects consistently ignored contextual clues and resisted changing the meaning they assigned to the word with the result that the meaning of the text was largely distorted. Bensoussan & Laufer (1984) also report problems with multiple word meanings in their Israeli learners' translations of words in a reading passage resulting from what they call 'preconceived notions'. The learners in the study translated the target words with the meanings they previously learnt for them (as measured by a pretest) rather than the meanings in the passage. This resistance to additional meanings not only impairs comprehension but also is likely to get in the way of learning new meanings for known words through guessing from context.

As previous studies have shown, the first meaning learnt for a multi-meaning word has strong psychological salience for the learner. Of the several meanings, the meaning which is most likely to be learnt first is what we are going to call here the 'primary meaning' (Langacker, 1987). The primary meaning is often the most frequent meaning sense and the word's default meaning out of context for native speakers (Durkin & Manning, 1989), e.g. the 'body part' sense of the word *head*, or *bank* in the sense of 'a financial institution' as opposed to the 'side of river' sense. Previous research with L2 learners has suggested that the main meaning sense of a word is usually the best known sense (Ozturk, 1997) as well as being important to the learning of other meanings (Verspoor & Lowie, 2003). Given the prevalence of frequency effects in vocabulary learning (c.f. Brown, 2012; Milton, 2007), the primary meaning is likely to be the first learnt and for some words only known meaning of the word. Therefore, in reading, a word used in a secondary meaning yet unknown to the learner is a potential source of comprehension problems.

It could be argued that the magnitude of comprehension problems resulting from multiple word meanings will be related to the proportion of secondary meanings that appear in the texts being read. If the text contains a large number of words used in a secondary sense most of which the learner is not familiar with, comprehension is likely to be greatly distorted. Therefore, it is important to know the challenges a typical English text poses to L2 learners. The present study will investigate the extent of secondary meanings in an authentic reading material in English for words in three content word classes, i.e. adjectives, verbs and nouns. Specifically, we seek answers to the following research questions:

1. What is the extent of words used in a secondary meaning in an authentic extended text in English?
2. Does the extent of secondary meanings differ among word classes?

THE STUDY

The text used for analysis was *Harry Potter and the Philosopher's Stone* by J.K. Rowling, which is the first book in a series of seven books. The reason for selecting a Harry Potter book is the widespread popularity of the series around the world. As such they constitute potential reading material for many advanced EFL learners and this is especially true for the first book. While it will take a dedicated reader to continue reading the whole series, many EFL learners would give it a try by reading the first book. The difficulty of the first book, therefore, might be crucial for whether or not the learner will continue reading the other books in the series and the multitude of secondary meanings is likely to contribute to this difficulty. For this reason, the first book was chosen for analysis in the present study.

To enable computer analysis (see below), the book was digitalised as a word document, which consisted of 78,546 words in 249 pages.

Word Sample

The total number of words analysed was 150. All sampled words were content words with multiple dictionary meanings, which were operationalised as nouns, verbs or adjectives with two or more meanings cited in the dictionaries used for analysis. The sampled words were morphologically unrelated in that they belonged to separate word families. The sampling rate was one word in every 20 word families over the 2987 word families contained in the book as revealed by Vocabulary Frequency Profile Analysis on Lextutor Website (<http://www.lex tutor.ca/vp/>). This sampling rate is higher than those of the dictionary studies cited earlier. Ozturk (2016) has sampled 225 words from 9,000 words with a sampling rate of one in 40. The study by Britton (1978) is likely to have an even lower sampling rate as it sampled a similar number of words from a much larger lexicon. Therefore, the higher sampling rate in the present study is believed to have generated a representative sample of words with multiple meanings used in the novel.

Words have been sampled twice from the book. Each sample consisted of 75 words with 25 words from each of the three word categories. In the first sample, the first chapter of the book has been screened three times, once for each of the three word categories. The first 25 words in a given category as they occurred in the book were chosen for subsequent analysis. The decision for investigating the very first content words in a lengthy book was motivated by the fact that readers decide the difficulty of a text by the first few pages and too many unfamiliar meanings at the beginning may put off some learners and cause them to stop reading altogether. In the second sample, a more representative sample was obtained whereby 75 words were selected systematically from the whole book. First, 25 pages were sampled from the book by selecting every 10th page of the 249 pages. Then, the selected pages were screened three times as in the first sample and each time 25 words from a given word class were sampled by taking one word from every 15th paragraph of the 405 paragraphs which were automatically created by the analysis software used (see below). Repetitions of the same word were excluded.

Verbs in the two samples were all finite verbs. Infinitive verbs (e.g. proud to say) and present participle verbs (e.g. craning over garden fences, spying on neighbours) were excluded. All nouns were common nouns. Proper nouns (e.g. Privet Drive, Mr and Mrs Dursley) and compound nouns (e.g. number four, garden fences) were not included in the analysis. Verbal

and nominal adjectives (e.g. a screaming Dudley, strangely dressed people) were also excluded. The decision to stick to main verbs, common nouns and primary adjectives was motivated by a desire to focus on words with a greater potential of impact on comprehension as well as to keep the three categories distinct by selecting the typical examples of the categories. A list of the words analysed can be found in Appendix.

Coding

Using Maxqda Analysis software (MAXQDA 11, Release: 11.0.10), each word was coded as either being used in a primary meaning or a secondary meaning in the book. The meaning of a selected word in the book was checked against two major learners' dictionaries. Online versions of the dictionaries were used. These were the Oxford Advanced Learner's Dictionary (<http://www.oxfordlearnersdictionaries.com>) and the Longman Dictionary of Contemporary English (<http://www.ldoceonline.com>). In cases where there is disagreement between the two dictionaries, a third or a fourth dictionary has been consulted.

The primary meaning was operationally defined as the first sense cited for a given word in both of the dictionaries. It was assumed that the first cited meaning in a word's entry would be the one regarded as the most important meaning of the word which is primarily associated with the word form. The secondary meaning was any other meaning given for the word in either dictionary which was not the first meaning.. The following examples illustrate the coding in the two categories for each word class:

While he drove, Uncle Vernon complained to Aunt Petunia. (*primary / verb*)
He found it a lot harder to concentrate on drills that afternoon. (*secondary / verb*)

A murmur ran through the crowd as Adrian Pucey dropped the Quaffle (*primary / noun*)
It was a very odd watch. It had twelve hands but no numbers. (*secondary / noun*)

His heart hammered as he crept across the dark hall toward the front door. (*primary / adjective*)
He wanted to say something to defend himself, but there seemed to be something wrong with his voice. (*secondary / adjective*)

RESULTS AND DISCUSSION

The results from the analysis of the first sample (cf. Table 1) indicated that more words were used in a primary than a secondary meaning (63% vs 37%). Still, over one third of the content words the learner will first read in the book were used in a secondary meaning and therefore are more likely to be unfamiliar to the learner. On the other hand, there was a difference between word classes in the distribution of meanings, which was shown to be significant by a chi-square test of independence at the .05 level ($X^2(2, 75) = 11.0562, p = .004$). While the proportion of secondary meanings was roughly equal to that of primary meanings in adjectives (56% vs 44%) and verbs (44% vs 56%), primary meanings were much more frequent than secondary meanings in nouns with 88% of them having been used in a primary meaning. This means that while about half of the adjectives and verbs will be in a secondary sense on the first encounter, only a few of the nouns (12%) will be encountered in a secondary meaning initially.

Table 1. Meanings in *Harry Potter and the Philosopher's Stone* (First Sample)

Word class	Number	Primary sense		Secondary sense	
		N	%	N	%
Adjectives	25	11	44	14	56
Verbs	25	14	56	11	44
Nouns	25	22	88	3	12
Total	75	47	63	28	37

Since the first sample was drawn from the first few pages of the book there is the possibility that it was biased with respect to nouns. The beginning of a novel is where the scene is set and the main characters are introduced. A clear description of the setting and characters might necessitate the use of person nouns unambiguously in the primary meaning. Indeed, an examination of the noun list in the first sample reveals a number of words that refer to persons like *man, son, boy, child, sister, husband, director* all of which have been used in a primary meaning.

The second sample was drawn from the whole book. The results from this analysis are given in Table 2. Primary meanings were again more dominant in the second sample (68% vs 32% respectively). The differences between the three word classes were less pronounced, which were not statistically significant at the .05 level ($X^2(2,75)=1.4706, p=.479$). Still, the proportion of secondary meanings was somewhat lower in nouns than in the other word categories (24% vs 32% and 40%). This result can be explained in terms of the lower average number of multiple meanings in nouns. Ozturk (2016) revealed nouns in the high and mid-frequency vocabulary of English to have a fewer number of meanings per word (2.36 words on average) than adjectives and verbs. As there are fewer meanings there is a lower chance of being used in a secondary meaning.

Table 2. Meanings in *Harry Potter and the Philosopher's Stone* (Second Sample)

Word class	Number	Primary sense		Secondary sense	
		N	%	N	%
Adjectives	25	17	68	8	32
Verbs	25	15	60	10	40
Nouns	25	19	76	6	24
Total	75	51	68	24	32

A comparison of the results from the first and second samples (see Table 3 below) has shown that the use of secondary meanings has slightly decreased in the second sample (37% vs 32%). This suggests that the beginning of the book pose a slightly bigger challenge with respect to multiple meanings than the rest of the book. However, a chi-square goodness of fit test did not reveal the difference to be significant at the .05 level ($X^2(1, 150)=0.912, p=0.34$).

Table 3. Primary and Secondary Meanings in the First vs Second Samples

Sense type	First Sample	Second Sample	Total
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	N (75)	%	N (75)	%	N (150)	%
Primary	47	63	51	68	98	65
Secondary	28	37	24	32	52	35

The second sample also seems to differ slightly from the first sample with respect to the use of secondary meanings in adjectives and nouns (cf. Figure 1), although again these differences were not statistically significant at the .05 level ($X^2(2, 52) = 2.3904, p = .303$). While the use of secondary meanings in adjectives was higher in the first sample, it was the reverse in nouns. This suggests that adjectives were used more in a secondary meaning in the beginning pages of the book in comparison to the whole book whereas secondary meanings in nouns were minimal initially but get higher in the rest of the book, which supports our earlier explanation. Verbs, on the other hand, were relatively stable and differed only by 4% between the two samples.

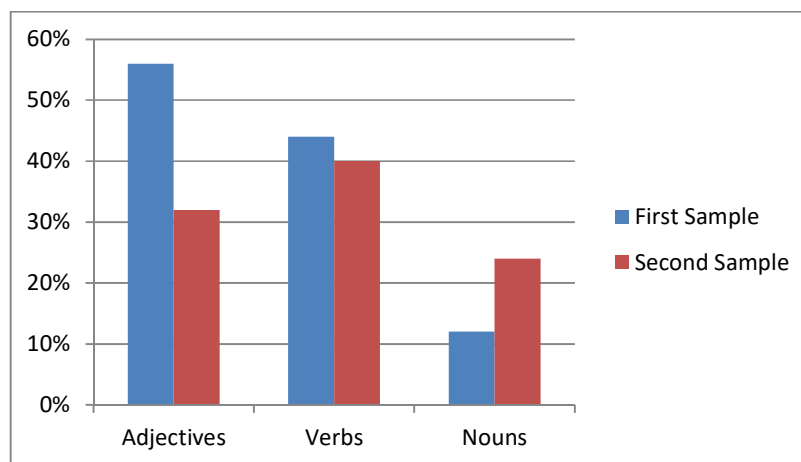


Figure 1. Percentage of secondary meanings in the two samples

CONCLUSION

This study suggested that a substantial proportion, about one third, of a sample of words with multiple dictionary meanings in an authentic English novel has been used in a secondary sense (35% in the whole sample). While this figure is lower than that implied by dictionary counts, it poses a significant challenge to English language learners reading authentic texts. It will mean that learners will have to resolve an issue with multiple meanings once in every three content words in the context of an authentic text given that the novel studied here is typical of texts L2 learners commonly read or aspire to read in English. Therefore, it is important for L2 learners to learn how to deal with multiple meanings in context. Most importantly, learners need to be taught to detect clues that signal a different meaning is being used than the one known to them. Also, learners can be taught to make use of the relatedness in polysemous words (i.e. words with multiple related meanings) between meanings to make sense of secondary meanings in a text.

This study also suggested a difference between the three content word classes in terms of the challenges they pose to L2 readers with respect to multiple meanings. Adjectives and verbs tended to be used in a secondary meaning to a greater extent than nouns although this was

more pronounced for adjectives in the beginning of the book in comparison to the rest. The extent of secondary meanings in verbs calls for special attention to verb meaning in pedagogy as verbs play a crucial role in the understanding of the particular sentence in which they appear as well as of the wider text.

Needless to say, the findings of this study are limited to a single book and therefore may not be representative of the whole genre of novels nor of the material that English language learners typically read.

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APPENDIX

The list of the words sampled from *Harry Potter and the Philosopher's Stone*

SAMPLE 1

Verbs	Nouns	Adjectives
expect	nonsense	proud
hold	director	normal
made	drills	strange
wanted	man	mysterious
discover	neck	big
think	time	large
bear	neighbors	thin
met	son	small
pretended	opinion	finer
have	boy	greatest
shuddered	secret	possible
say	sister	good
arrived	years	dull
knew	husband	gray
seen	street	cloudy
want	reason	boring
starts	child	Little
happening	country	peculiar
hummed	tie	funny
picked	work	young
wrestled	window	stupid
pecked	cheek	new
tried	cereal	older
missed	walls	silly
spent	tyke	different

SAMPLE 2

Verbs	Nouns	Adjectives
found	road	uneasy
drove	hands	happy
grabbed	hour	true
read	hand	dark
use	page	necessary
going	cart	mad
get	train	long
looking	name	lucky
opened	flight	pink
learn	remains	smooth
follow	book	wrong
heard	cane	busy
watchin	corridor	dry
played	air	top
holding	murmur	luminous
drew	note	cool
know	mirror	nervous
put	shoulder	ordinary
want	hand	responsible
given	place	cold
climbed	bed	afraid
feared	cloak	quiet
stood	roll	Ready
spreading	head	clear
forgotten	letter	distant