Class 2

A glimpse of corpus linguistics

Sources of data in linguistic analysis

- introspection
- individual citations
- corpus data

Definition of a corpus

"A corpus is a body of text assembled according to explicit design criteria for a specific purpose"

(Atkins and Clear 1992:5, after Granger 1998:7)

Purpose

- compilation of a dictionary
 - general English or ESP?
 - large and comprehensive or small and including most frequent words/terms?
 - etc.
- linguistic research
 - medium (spoken or written language or both?)
 - feature of language (frequent or infrequent)?
 - etc.

Design criteria

- □ size
- content
- balance and representativeness
- permanence

(Hunston 2002)

Types of corpora

- general vs. special language
- ☐ reference vs. monitor
- □ spoken vs. written
- whole texts vs. samples
- ☐ synchronic vs. diachronic
- monolingual vs. mulitilingual
- parallel vs. comparable

Historical Background

- Pre-electronic Corpora (biblical & literary studies, early dictionaries, etc.)
- 1st-generation Major Corpora (Brown, LOB, LLC, Kolhapur, Wellington, etc.)
- 2nd-generation Mega-corpora (Bank of English, British National Corpus, ICE-GB, American National Corpus, etc.)

(Kennedy 1998:13)

1-generation corpora

- The Brown Corpus
 - http://khnt.aksis.uib.no/icame/manuals/brown/
- ☐ The LOB Corpus
 - http://khnt.hit.uib.no/icame/manuals/lobman/
- □ The Survey of English Usage
 - http://www.ucl.ac.uk/english-usage/about/index.htm
- □ The London-Lund Corpus (spoken)

http://khnt.hit.uib.no/icame/manuals/LONDLUND/INDEX
.HTM

2-generation corpora

- ☐ The British National Corpus (BNC)
 http://www.natcorp.ox.ac.uk/
- Corpus of Contemporary American English (COCA)

http://corpus.byu.edu/coca/

□ International Corpus of English (ICE)

http://www.ucl.ac.uk/english-usage/ice/index.htm
http://www.ucl.ac.uk/english-usage/projects/ice-gb/index.htm

Archive / Library / Corpus

- Archive: a repository of readable electronic texts not linked in any coordinated way, e.g. the Oxford Text Archive
- Electronic Text Library (or ETL, Fr.
 'textothèque'): a collection of electronic texts in
 standardized format with certain conventions relating
 to content, etc., but without rigorous selectional
 constraints.
- Corpus: a subset of an ETL, built according to explicit design criteria for a specific purpose, e.g. the Corpus Révolutionnaire (Bibliothèque Beaubourg, Paris), the Cobuild Corpus.

Atkins, S, Clear, J, & Ostler (1992) after David Lee

Text Archives

- ☐ The Oxford Text Archive http://ota.ahds.ac.uk/
- □ ICAME http://helmer.hit.uib.no/icame.html
- □ TRACTOR

 http://www.tractor.bham.ac.uk/
- Project Guttenberg http://www.promo.net/pg/index.html
- ☐ The Books Online http://digital.library.upenn.edu/books/

Useful Link

David Lee's Bookmarks for Corpusbased Linguistics

http://tiny.cc/corpora

Activity 1

- □ Using David Lee's Bookmarks for CBL find three corpora in a language other than English (preferably a language you know). Note down their names, URL addresses and short descriptions (size, content, availability)
- Using the webpages for Gutenberg Project and The Books Online check what books are available in this language. Choose one author and produce a list of resources by this author available on the Internet.

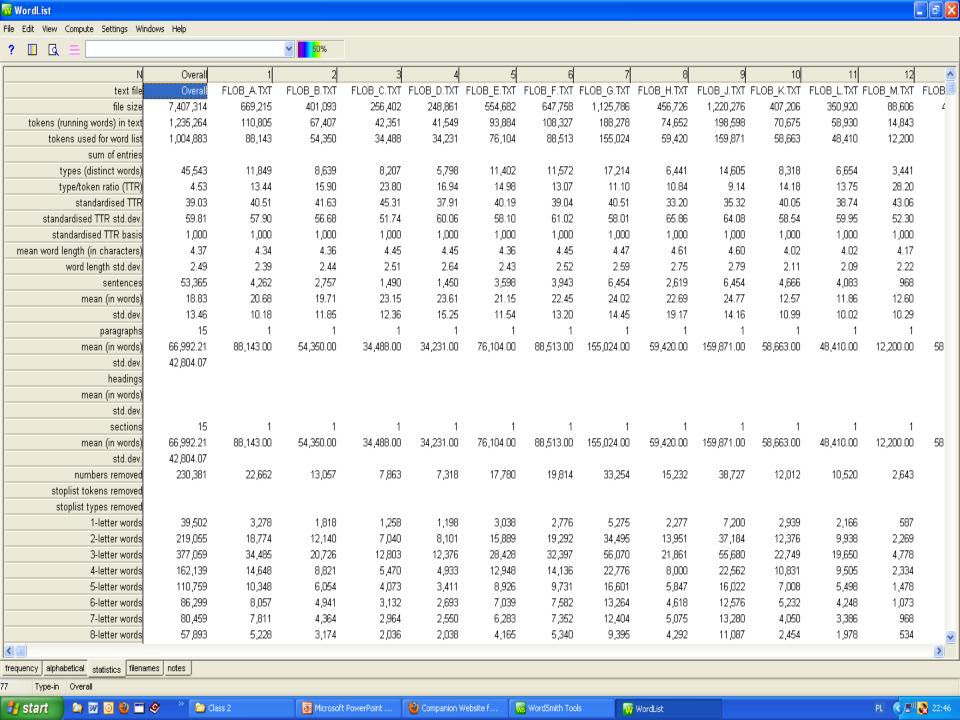
Consulting corpora

- A corpus by itself is useless unless you have a computer programme which allows you to analyze it.
- Programmes for analysing corpora are called concordancers.
- Some concordancers are purposebuilt and work only with one particular corpus, and some others are designed to analyze any corpus.

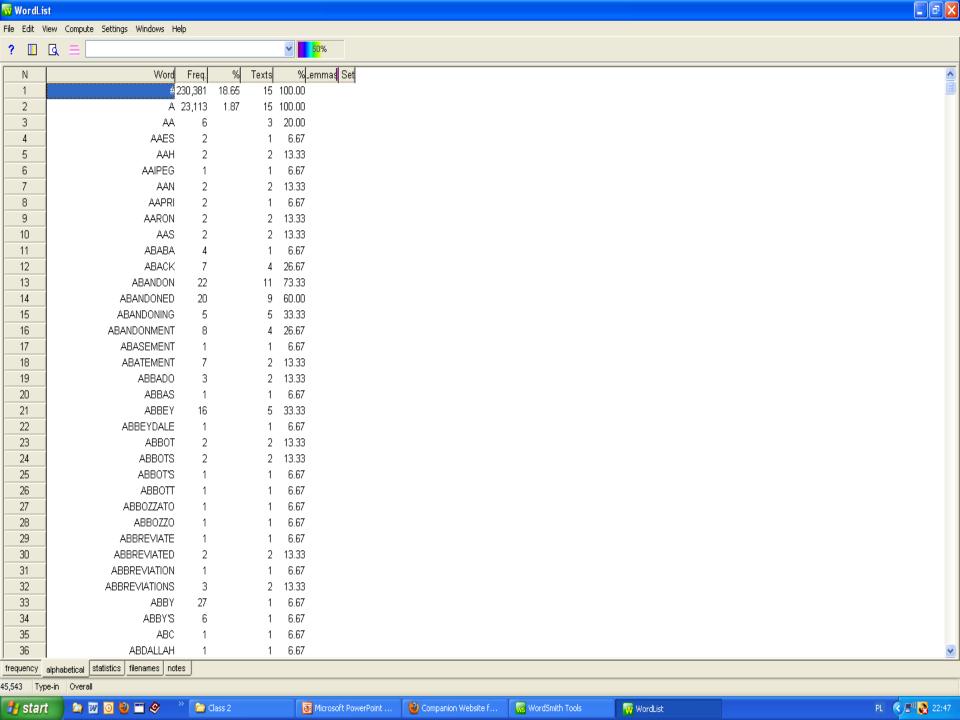
Basic types of analysis

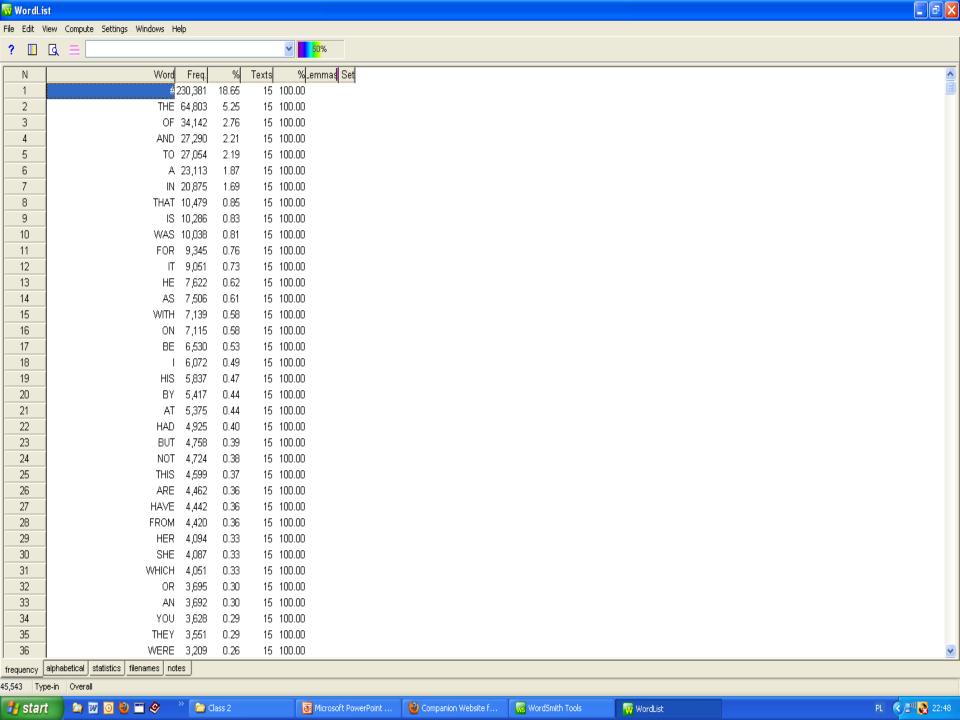
- basic statistics
 - number of words, sentences, paragraphs, n-letter words, etc. in a text or group of texts
- wordlists
 - alphabetical
 - frequency
- concordances = key words in context
 (KWIC)
 - sorting

Example of basic statistics



Examples of wordlists

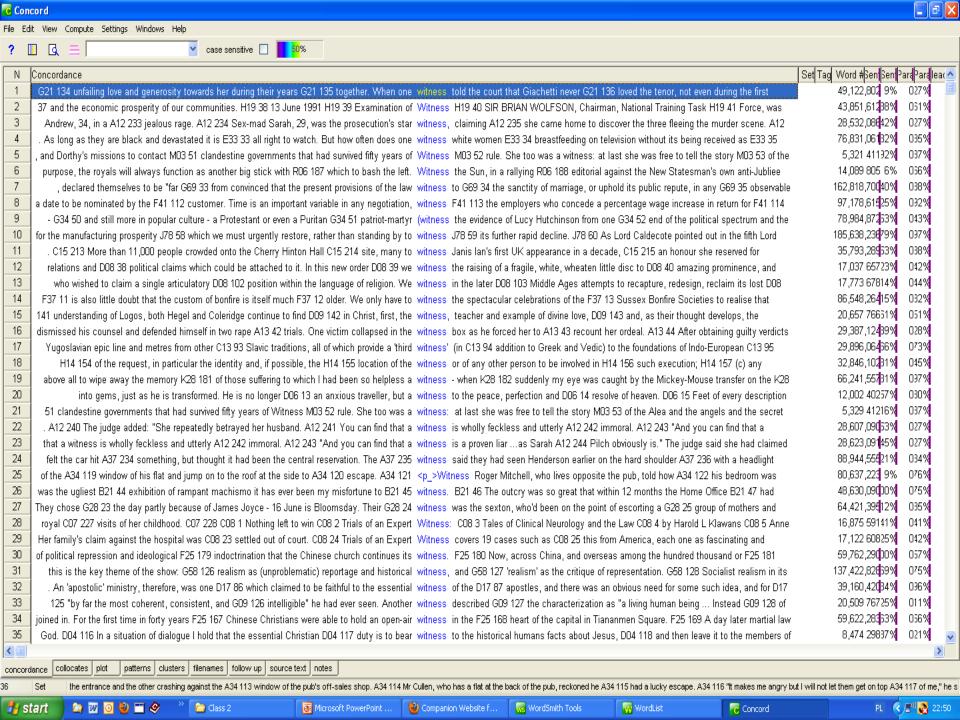


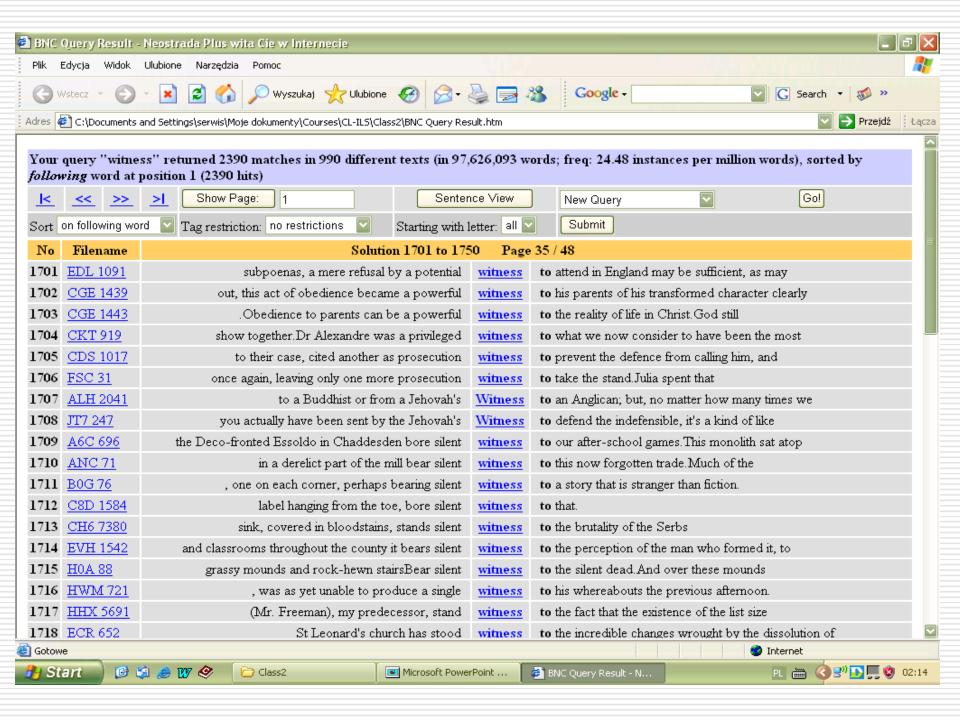


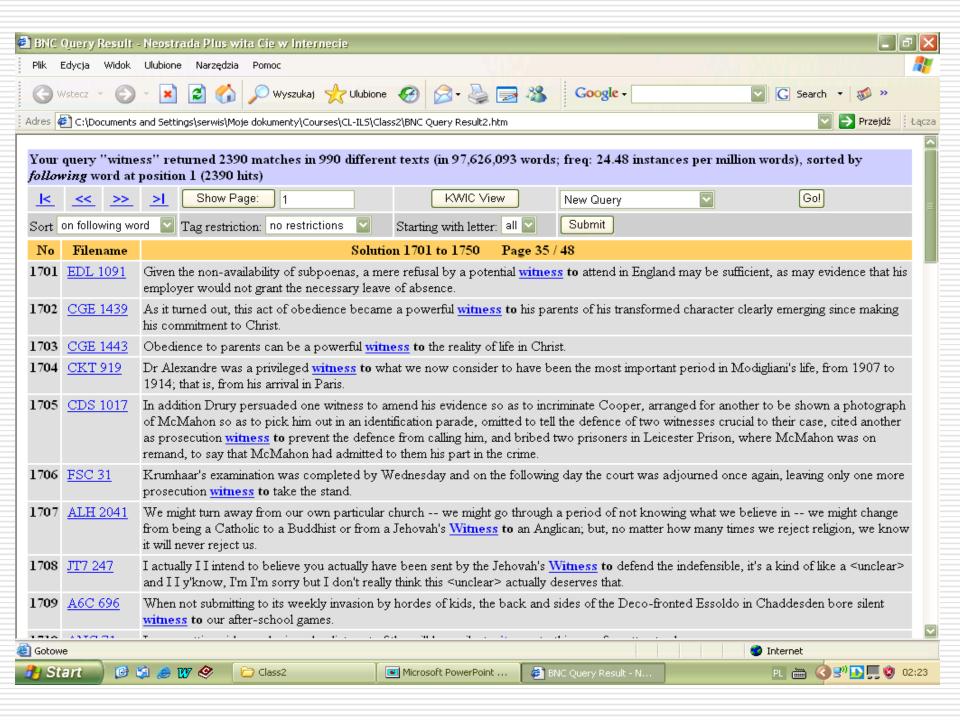
Frequency lists

http://ucrel.lancs.ac.uk/bncfreq/

Examples of concordances







More sophisticated functionalities

- extraction of n-grams
- extractions of collocations
- keyword analysis

Key terms

- compile: collect and put together (for example, texts for a corpus).
- collocation: words appearing together.
- collocate (v,n): to appear together, or words that appear together. (In the collocations 'apple tree', 'apple pie', and 'Adam's apple', 'apple' collocates with 'tree', 'pie', and 'Adam's'. They are collocates.)
- colligation: patterns based on syntactic groups rather than individual words, e.g. interested in, like + ving (Barnbrook 1996).

Key terms (2)

- token: individual or running word
- type: word form. "I see a cat and a dog" contains seven tokens but only six types (the type 'a' occurrs twice).
- □ lemma: the set of different forms of a word, such as the inflected forms of a verb, e.g. 'sing', 'sang', 'sung' are one lemma, 'boy', 'boys' another.
- lemmatisation: the process of converting the words in a text into lemmas. We often talk of lemmatised wordlists.

Key terms (3)

- □ string: combination of letters or other characters that you are searching for in a corpus, e.g `a nice day'.
- □ hit: When your search string is found in the corpus, it is referred to as a hit or match.
- match: When your search string is found in the corpus, it is referred to as a match or hit. You can say: "The search has returned 47 hits/matches."

Key terms (4)

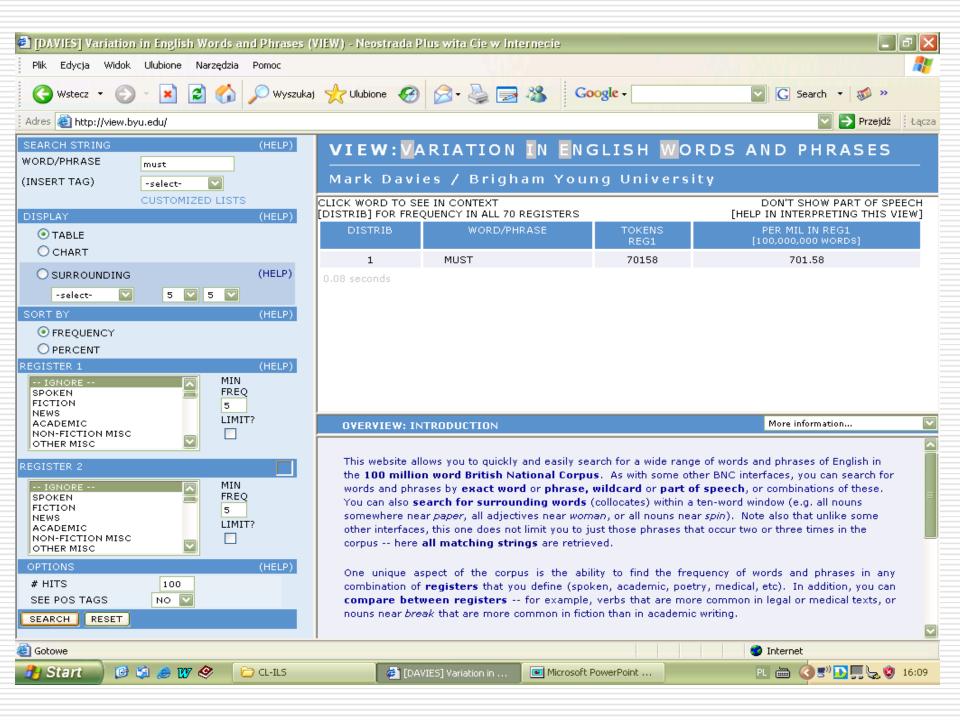
- concordance (line): A word/phrase you have searched for (hit/match) displayed with its surrounding context.
- □ **context:** the words surrounding a *hit*.
- KWIC (Key-Word In Context): a form of displaying a concordance where the hit is shown in the centre of a page with a certain amount of characters of context on both sides. This display is useful for observing characteristic patterns.

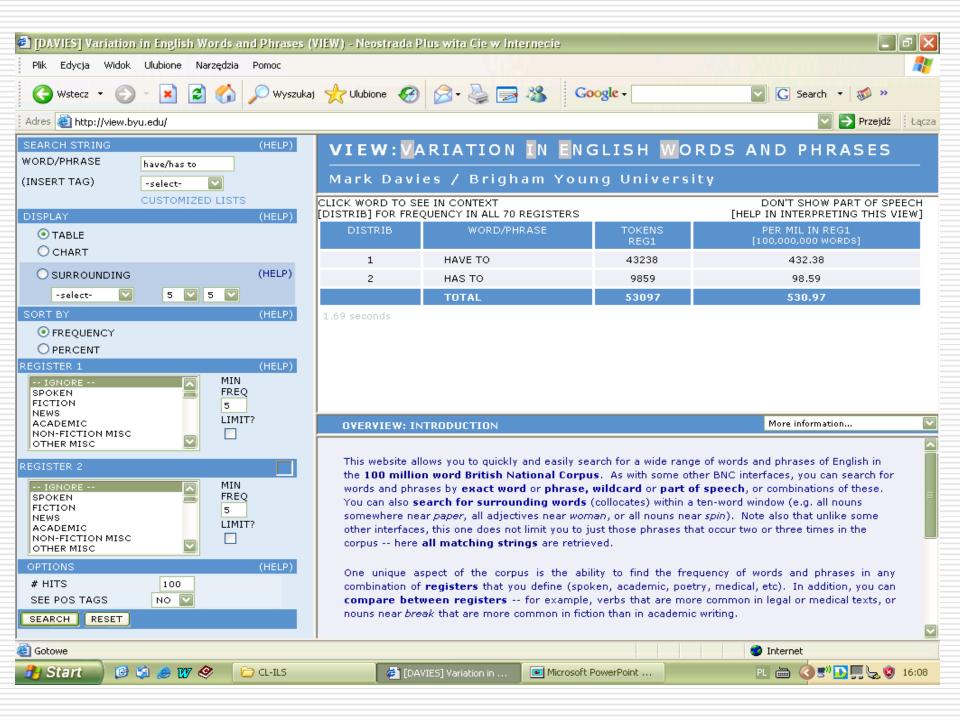
Advantages and disadvantages of corpora

- information on frequency, meanings (e.g. pragmatic meaning, semantic prosody), collocation and phraseology
- ☐ information on what is probable but not what is possible in language (If a particular word or collocation cannot be found in a corpus, this does not mean they do not exist in lanaguge, they are just very rare.)

Example 1 – must vs. have to

- Work in groups and answer the following questions
 - What is the difference in meaning between must and have to?
 - What are the differences in the frequencies of the two verbs in English?
 - Are they the same across registers?





must vs. have/has to

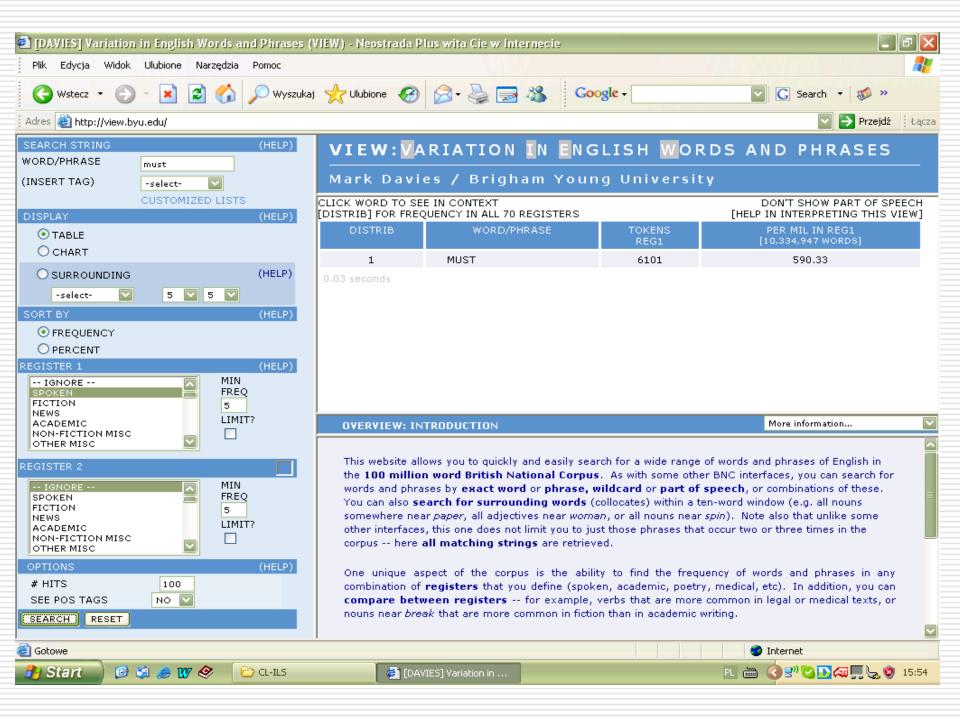
must

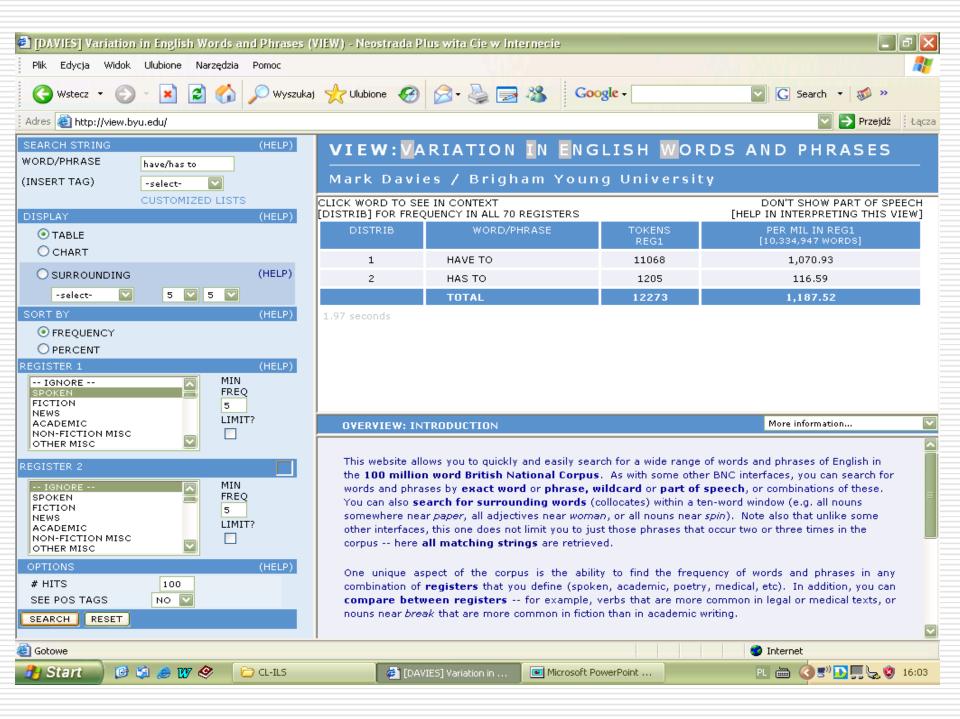
have/has to

70,158

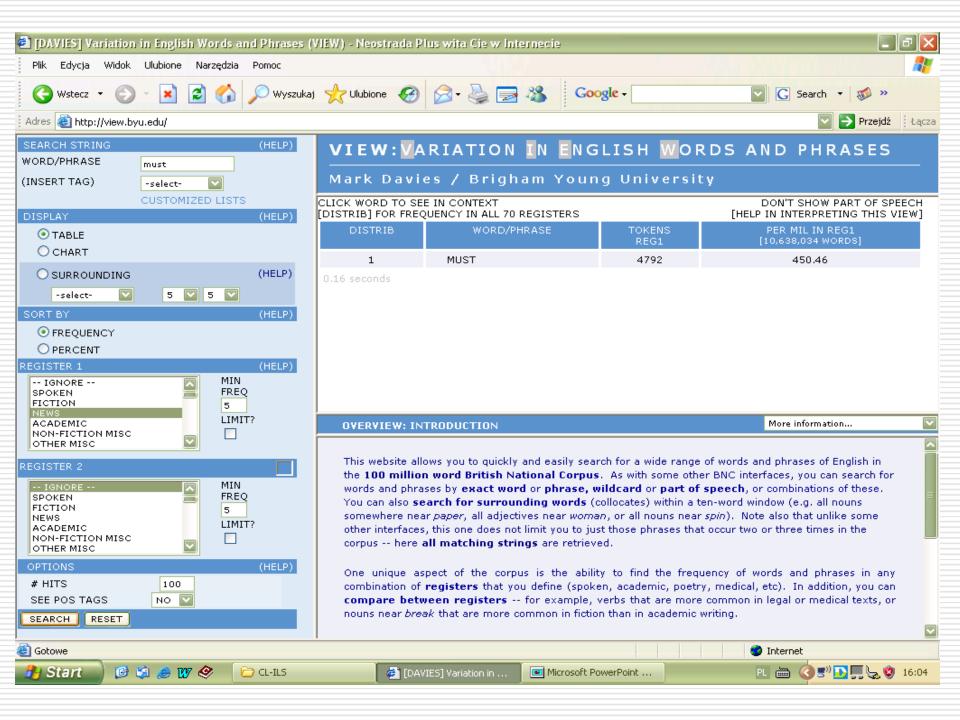
53,097

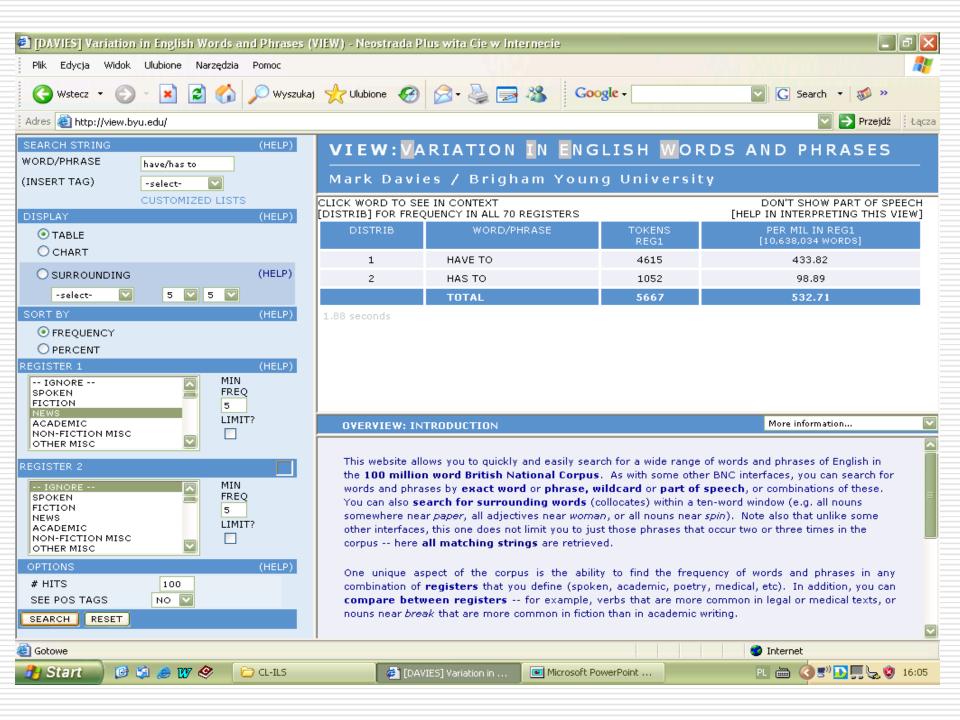
Must and have to in spoken English



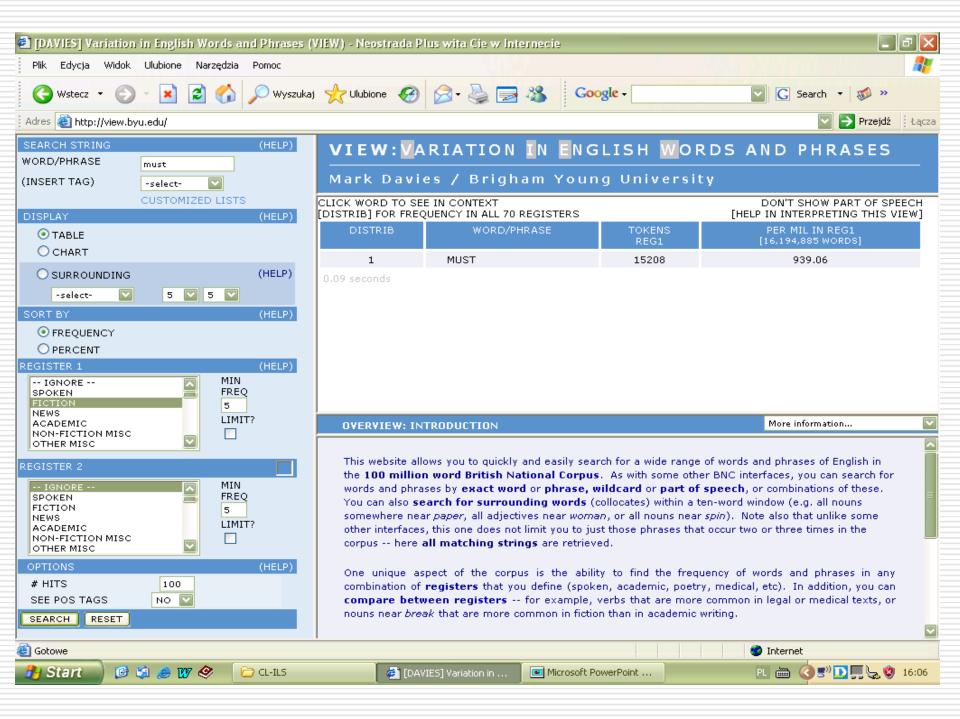


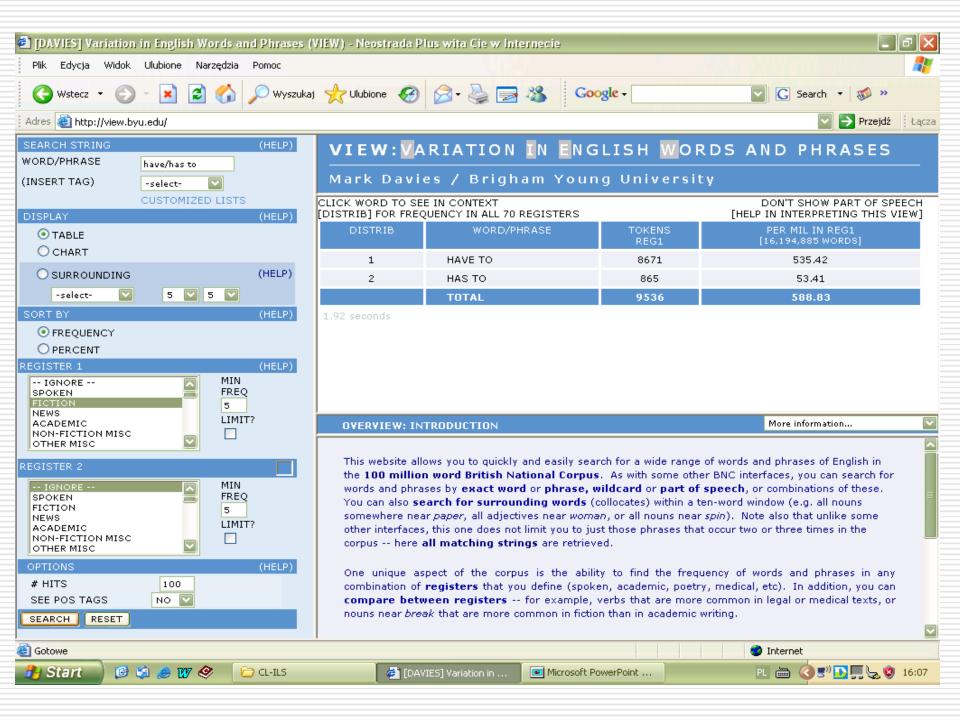
Must and have to in the news



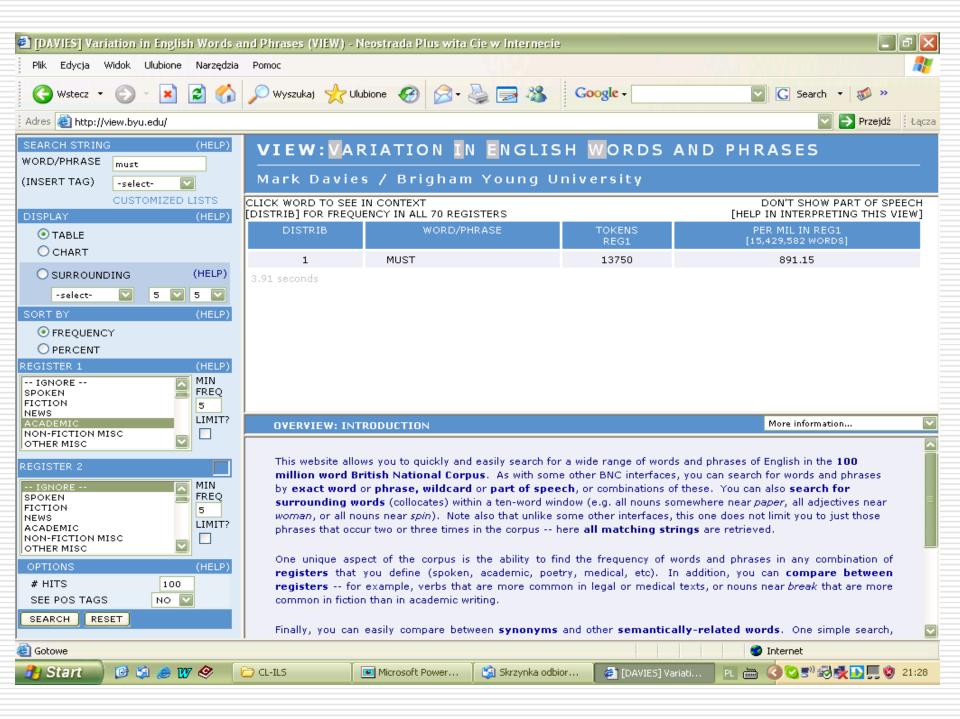


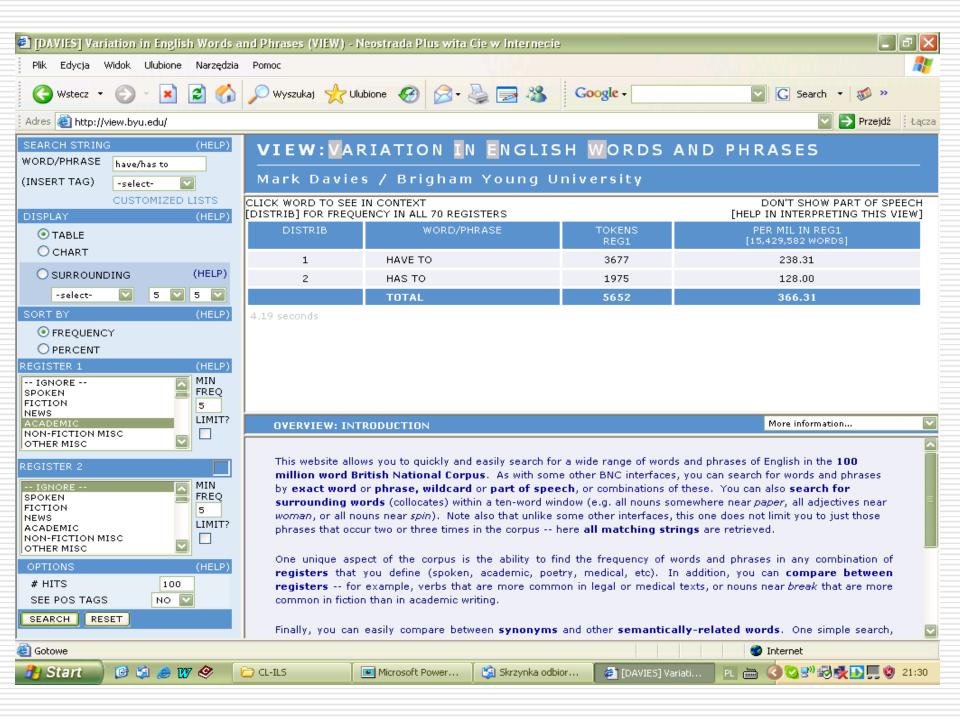
Must and have to in fiction





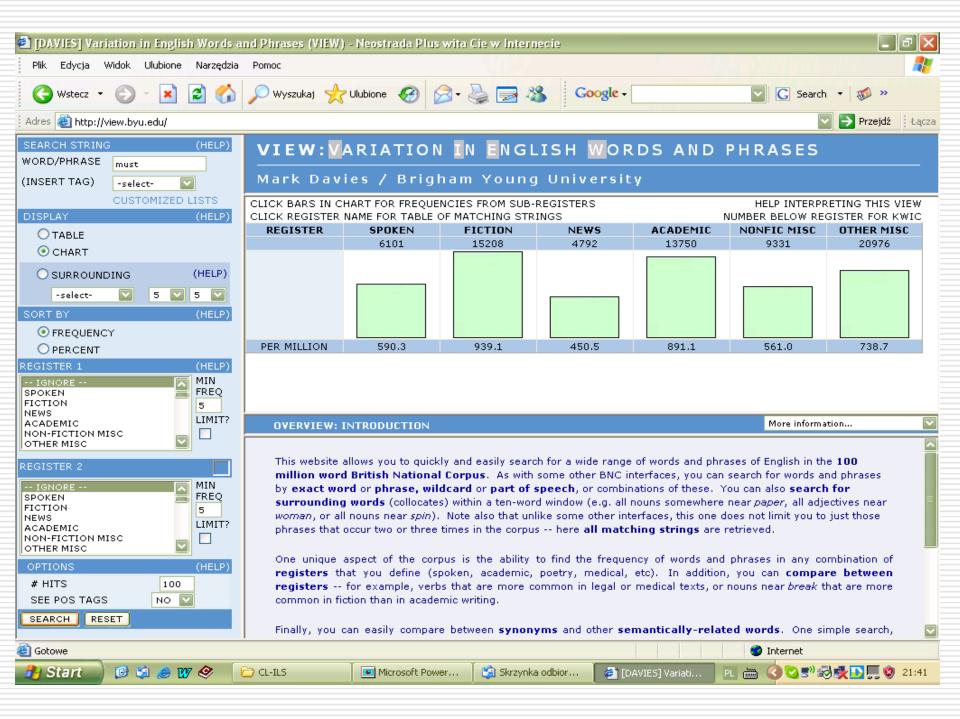
Must and have to in academic English

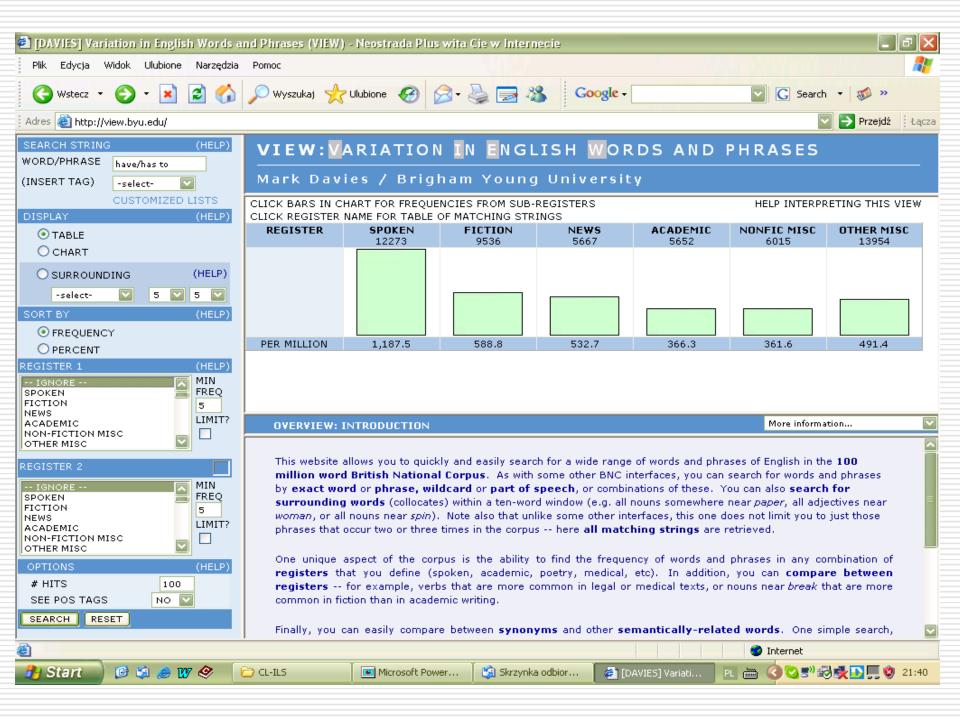




must vs. have/has to across registers

	must	have/has to
general	701.58	530.97
spoken	590.33	1,187.52
news	450.46	532.71
fiction	939.06	588.83
academic	891.15	366.31





Example 2 – Word frequencies

- Work in groups and answer the following questions
 - What is the most frequent word in English?
 - Can you make the list of 10 most frequent words in English?
 - Can you guess what proportion of a text is made up of 10 most frequent words in English?
 - How many words do you need to know to read authentic texts for pleasure?

the Det 61847 6,18% 6,18% of Prep 29391 2,94% 9,12% and Conj 26817 2,68% 11,81% a Det 21626 2,16% 13,97% in Prep 18214 1,82% 15,79% to Inf 16284 1,63% 17,42% it Pron 10875 1,09% 18,51% is Verb 9982 1,00% 19,50% to Prep 9343 0,93% 20,44% was Verb 9236 0,92% 21,36% I Pron 8875 0,89% 22,25%	
and Conj 26817 2,68% 11,81% a Det 21626 2,16% 13,97% in Prep 18214 1,82% 15,79% to Inf 16284 1,63% 17,42% it Pron 10875 1,09% 18,51% is Verb 9982 1,00% 19,50% to Prep 9343 0,93% 20,44% was Verb 9236 0,92% 21,36%	
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I Pron 8875 0,89% 22.25%	
for Prep 8412 0,84% 23,09%	
that Conj 7308 0,73% 23,82%	
you Pron 6954 0,70% 24,52%	
he Pron 6810 0,68% 25,20%	
be* Verb 6644 0,66% 25,86%	
with Prep 6575 0,66% 26,52%	
on Prep 6475 0,65% 27,17%	
by Prep 5096 0,51% 27,68%	
at Prep 4790 0,48% 28,16%	
have* Verb 4735 0,47% 28,63%	
are Verb 4707 0,47% 29,10%	
not Neg 4626 0,46% 29,56%	
this DetP 4623 0,46% 30,02%	

BNC Sampler

tokens	2,127,880
(running words)	
types	44,001
(different words)	
hapaxes	15,736
(words occurring only once)	
examples	auctioneer,
	breezy,
	grandparent

Frequency facts

Vocabulary size	Text coverage
10	23,7%
100	49,0%
2,000	81,3
3,000	85,2%
5,000	89,4%
43,831	99%
86,741	100%

(Carrol, Davis and Richman 1971 after Nation 1990)

Minimum for language use

Skill	Minimum vocabulary
reading	3,000 word families (5,000 lexical items)
	for minimal comprehension
	5,000 word families (8,000 lexical items)
	for reading for pleasure (Laufer 1992)
listening	half the words needed to understand
	written English (Nation 1990)
writing	2,000-3,000
	(Nation 1990)
speaking	1,200 headwords
	(West 1960 after Nation 1990)

Activity 2

- What is the core meaning of the word wait?
- What are different meanings of this word?
- What are its most frequent collocations/colligations?
- Study the concordance lines in the next slide. Can you notice anything interesting about the meaning/fuction/collocations of this word that you did not think of before?
- Search the word in one of the online dictionaries (the link below). Does it list the particular meaning/function of wait you have just discovered?

http://dictionary.reference.com/

