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Hard, Difficult or Challenging? Uncovering Facts about Language through Corpus Study

Table of Contents

Section			Page
1.0	The Assignment		1
2.0	Introduction		1
3.0	Literature Review		3
4.0	Corpus Observations of *Hard*, *Difficult* and *Challenging*		9
4.1		Collocations of *Hard*	9
4.2		Collocations of *Difficult*	11
4.3		Collocations of *Challenging*	13
4.4		Grammatical Patterns of *Hard*	16
4.5		Grammatical Patterns of *Difficult*	17
4.6		Grammatical Patterns of *Challenging*	17
5.0	Pedagogical Implications		18
6.0	Conclusion		20
7.0	Bibliography		22
	Appendix 1 Top 30 Collocates of *Hard* in Each Category by Frequency		23
	Appendix 2 Top 30 Collocates of *Hard* in Each Category by T-Score		24
	Appendix 3 Top 30 Collocates of *Difficult* in Each Category by Frequency		25
	Appendix 4 Top 30 Collocates of *Difficult* in Each Category by T-Score		26
	Appendix 5 Top 30 Collocates of *Challenging* in Each Category by Frequency		27
	Appendix 6 Top 30 Collocates of *Challenging* in Each Category by T-Score		28
	Appendix 7 Grammatical Patterns for *Hard*		29
	Appendix 8 Grammatical Patterns for *Difficult*		32
	Appendix 9 Grammatical Patterns for *Challenging*		34

1.0 The Assignment

CL/09/01

Take a small number of words or phrases (between 2 and 5) and do a corpus study to show how they are used in similar or different ways. Choose words/phrases which are interesting in some way e.g. your students often confuse them; they cause problems for translators working with a specific language; you yourself have difficulty deciding when to use one or the other. Examples of words/phrases which have been studied in the past include: *between* and *through*; *immense, enormous* and *massive*; *reason to* and *reason for*; *on the other hand* and *on the contrary*. (You should not repeat these studies, which are mentioned as examples, but should choose different sets of words. You may choose words from a language other than English, if you have an available corpus, but make sure that a monolingual English speaker can understand your argument.)

2.0 Introduction

I have chosen to study the words *hard*, *difficult* and *challenging*. I have decided to study them because the first two, *hard* and *difficult*, are frequently used by my students to qualify their experiences in English class. When my students observe their peer(s) express that a lesson is hard or difficult, I notice they become demotivated as do I. Realizing that learning a language to fluency is a long and often arduous task seldom realized by most students, I have long considered that the word *challenging* is a better fit as it suggests to me that language learning to fluency, while not easy, is still an achievable goal. I typically hear from my students that *challenging* does not fit their concept of the situation, and some colleagues consider my view pedantic—I am splitting hairs. However, I have thought that showing the choice of words is

important not only semantically, but also culturally—that is, *hard* and *challenging* tend to be more negatively biased (or connotates negatively), while *challenging* is more positively biased. Thus, choosing *challenging* signals not only effort but also a willingness to accept and overcome difficulty and this signal is readily sensed by native users of English as an attitudinally positive choice.

Conversely, repeatedly selecting *hard* or *difficult* to describe one's world may signal a more negative attitude. Hinkel (2005) compares Heller's view of the primary purpose of language—to negotiate a person's sense of self at different times and in different contexts, giving or denying individuals access to social networks—with Norton's position, that power operates at the macro—or legal, social and educational systems—as well as the micro, or everyday social encounters (Hinkel, 924). Making particular lexical choices to describe one's worldview may open or close doors in the target culture, and an individual who appears positive may expect doors to open to him or her more easily.

For this study, I searched the Bank of English, which, at time of writing, contains 450 million words in various databases. I utilized the collocation option to find the top 2000 collocations within a 4:4 span of each word—*hard*, *difficult* and *challenging*—sorted them according to a) frequency and b) t-score, deleted the grammatical items and drew a final listing of the top 450 collocates. Collocations of one word, *hard* for example, which were duplicated in lists of the other words (*difficult* and *challenging*) were ranked lower than unique words, though included in the top 450 word lists if either their frequency or t-score were high enough (see Table 1). This process was adopted to make the differences in usage between the three words more readily visible: similarly sensed words will tend to collocate with similar word lists, and the distinctions between the words can be easily lost.

Table 1: Selection of Collocations for *Hard* Organized by Frequency

Hard		Collocation Frequency Ordering		
Lexical Item		Raw Frequency	Collocation Frequency	T-Score
205	metal	16870	75	4.249319
206	frost	5232	72	7.089081
207	laughed	10181	72	5.768402
208	thinks	21222	72	2.822024
209	work	323761	11378	99.794844
210	was	3246851	9959	26.123087
211	be	2395637	9700	43.410172
212	very	436637	7297	73.848184
213	are	2003616	6212	21.253035
214	so	935360	5902	49.255196
215	find	173196	4915	64.513063

Unique Items

Duplicate Items

Corpus searches were limited to collocations which attend only the words *hard*, *difficult* and *challenging* rather than searching for the lemmatized forms of these words (for example, hardly, difficulty or challenge).

3.0 Literature Review

Language has long been known to be composed of rule-governed patterns into which certain words were understood to fit to the exclusion of others. Typically, these rules are the grammar which organizes language, yet within recent decades, collocation has been recognized as a significant organizing system operating within the grammar. J.R. Firth is among the first to identify collocation with his statement, "you shall judge a word by the company it keeps" (Partington, 25). From this humble beginning, corpus linguistics has grown.

John Sinclair identified two properties of language showing that textual coherence does not happen at random—the idiom principle and the open-choice principle are significant to collocation. Should a word fit within a set phrase, then the idiom principle is at play; conversely, if there is no set phrase, then the open-choice principle is in use (Hunston, 124). For example, the words in the phrase, *of course*, as an expression of assent, have meaning together; yet when another word is substituted—*by course,* the phrase loses its meaning. The open-choice principle is the slot-and-filler model of language description where a large series of complex choices is made to produce coherent text (Sinclair, 108-109), the choice proceeding limiting those following. These two principles provide the foundation for collocation.

Textual meaning accumulates globally through many local collocations. Language description by collocation alone would be meaningless without some way to show relevance. Sinclair identified that a native-language user's intuitions about language, will be unrevealing in terms of usage (Sinclair, 39). Having amassed a great amount of language knowledge, most personal evaluations will be "ideas about language rather than facts of it." Corpus linguistics combines text with technology to reveal language facts. The introduction of digital computers and concordancing software from the mid 1970's onwards provided the muscle with which to do most of the work of finding collocations (Kennedy, 5-7). Electronic databases held the texts in a machine-readable format. Software could identify collocations as well as provide linguists with statistical data showing which were most relevant. Knowing how basic concordancing software works can provide useful information on the evidence returned from a search (Sinclair (2004), 15). Collocations with higher values of frequency, t-score and mutual attraction are more statistically relevant (see Table 2).

Table 2 Collocation Examples Ordered by Frequency and T-Score

Collocate	Frequency	T-Score
his	847	25.051640
her	661	23.187461
at	435	14.081992
under	154	11.160451
she	238	10.843065

(Hunston, 14-16)

A limiting factor in the importance of these measures, however, is the amount of text under examination. A smaller text will produce higher values, thus inflating the importance of the collocation. This is particularly important when dealing with texts of different sizes, as a larger text will show a particular feature to be less statistically relevant while a smaller text will show the reverse.

Corpus discoveries, regardless of size, are also limited by the way in which the sorting software is set (Sinclair (2004), 15). Setting the software to find a single word—*hard*, for example, will return collocations for the word *hard*, but not for other forms such as *harder*, *hardest*, or *hardly*. Searching for the lemma *hard@* will return forms of the same type. Searching for hard*, however, will provide all the words which have hard as a part as well as all other forms besides. Searching for a lemma instead of the single word may appear to bear more fruit, yet the time and energy required for sorting is greatly increased.

Table 3 Lemmas of Hard, Difficult and Challenging

	hard	***difficult***	***challenging***
1.	hard	difficult	challenging
2.	harder		challenges
3.	hardest		challenge
4.			challenged

A lemma is particularly useful for verbs, but at times may include both verb and noun forms, as in *contact*, which, in both forms, includes *contact* and *contacts*. Collocations alone cannot determine when one or the other form is in use while both may contribute to a word's frequency, t-score or mi-score. Concordance lines may highlight such use (see Table 4), as will setting the software to discover noun or verb forms with "/NOUN" or "/VERB" (among others).

Table 4 Concordance Lines for the Lemma *Challenging*

Authors of a most informative and	challenging	book. A Nation in Denial; The
who is challenging Bush and	challenging	Bush's policies. Instead, we're
differences now coming out and	challenging	dearly-held values of community
The idea of upping the ante and	challenging	Governor Clinton to more
While this is a very difficult and	challenging	time, the board is confident

Lexical patterning, as indicated by concordance lines is essential for discovering elements of language which are both statistically relevant and which provide teachable systems which are broad enough for use between registers and genres. The above lines of concordance indicate some patterns which challenging follows (see Table 5).

Table 5 Some Patterns of *Challenging*

1. *very ADJ and challenging NOUN*
2. *most ADJ and challenging NOUN*
3. *challenging NOUN*
4. *NOUN and Challenging NOUN*

The items in Table 5 are at the same time communicable, teachable and general enough to cover different registers and genres. Furthermore, they can be used to check for similarity between other lexical items. Hunston and Francis (1998) note both that lexical items have patterns and that similar items fall into groups based on shared aspects of meaning. In the first pattern displayed in Table 5, the word *hard* could be substituted for *difficult* in the adjective position, but

good could not without changing the meaning of the passage. Additionally, each of these patterns will collocate in statistically different ways; however in terms of a particular lemma, one form will typically be more common than another (Stubbs, 172).

Corpus study reveals features as synonymy and semantic prosody as important features in language. Synonymy is useful for language learners since learning which words are similar to others creates meaningful links between vocabulary items, making them easier to acquire (Partington, 39). In addition, synonyms reduce repetition of words within text as well as allow users to make semantically similar statements across different registers. Synonymy refers to having the same sense, though not the same reference. Lyons (1981, in Partington, 40) distinguishes between complete synonymy and absolute synonymy. Items are completely synonymous if they are descriptively, expressively and socially identical in meaning and absolutely synonymous if they have, in addition, the same distribution. Furthermore, lexical items are descriptively synonymous if, when they are interchanged, the message in which they appear is not affected. Partington notes that "the selection of one rather than the other may change the social or expressive meaning of the utterance, but hold constant its descriptive meaning (if it has descriptive meaning) in which case, we can say that the intersubstitutable lexemes are descriptively synonymous" (40).

Semantic prosody was first described by Sinclair (1991) as meaning extending over more than one unit, shown by Sinclair with the phrase, *set in*, in which he shows that the phrase, while not inherently negative, collocates with items such as *rot*, *decay*, *disillusion*, and *infection* and points to a negative state of affairs extending over *set in* (Stubbs, 173). As "a subtle element of attitudinal, often pragmatic meaning" (Sinclair, 1998: 20), semantic prosody determines the meaning of the whole unit (Mahlberg, 33). Both synonymy and semantic

prosody can provide language users and learners with relevant information about when a language community utilizes which items for purposes which are culturally relevant such as the connotative value of a unit of language.

Observing the lines of concordance in table 4, above, we can see that the closest words to challenging are the grammatical words *and* and *the*, the nouns *time*, *Bush*, *Governor Clinton* and *values*, and the adjectives *difficult*, *informative*, and *dearly-held*. We might conclude from this brief observation that *challenging* is most often used as a verb with object nouns—in particular political figures and policies. In fact, a wider search reveals many other categories to which *challenging* belongs. Even more relevant is the idea that challenging authority is a cultural activity which is valid in certain circumstances. Whatever may be said of a culture based on its language, knowing when a challenge to authority is vitally important which may allow one to more fully participate in a foreign culture.

While corpus information serves a critical function in language instruction and may show which patterns are most prevalent within a particular genre or register of language (Altenberg, 14), it can show which lexical items collocate within those patterns. Furthermore, it can show users ways in which cultural ideas are conveyed in language. Kachru (1994) argues that users of a language exist in three concentric circles, with native users at the center and non-native and learners further out. These circles coincide not only with language ability but also with social inclusion/ exclusion. Such division, considered offensive by some researchers, is often exacerbated by the fact that language learners are often instructed by non-native speakers (Hinkel, 928), further distancing the learner from the centre. Inclusion closer to the center of a group of language users may be encouraged by cultural information imbibed from corpus inquiries. Corpus information can assist in making the divisions between native and non-native

speakers less distinct, allowing learners greater social and political access to the world of the studied language.

4.0 Corpus Observations of *Hard, Difficult* and *Challenging*

We shall now discuss the corpus data in regards to the three words, *hard, difficult* and *challenging*. Each of these words can be, according to native speaker intuition, synonymous. However, corpus evidence will show that these words exhibit synonymy in a limited sense. We shall discuss how these words collocate as well as the patterns in which these words operate. Collocates of these three words were organized into two lists by frequency and by t-score. Further, since these words tend to be considered synonymous, collocates which are duplicate between words are ranked lower than those which are unique. The top 450 lexical collocates by frequency and by t-score have been retained for comparison and categorized. Grammatical collocates have been deleted from the list, though shall be utilized to identify relevant patterns.

4.1 Collocations of *Hard*

Hard appears to be a highly active word in English, appearing in 126,945 lines of collocation in the Bank of English, of which 118,076 are either adjective or adverb forms. Of the top 450 collocates of *hard*, 208 are unique by frequency and 226 are unique by t-score (not appearing in the listing for *difficult* or *challenging*). The top 450 collocates of *hard* can be organized into categories of judgment, effort, plurality, combat/ competition/ strike, direction, pressure, constituent, singularity, impermeability, existential and enjoyment. Appendix 1 lists the first thirty or so of each of the seven most prevalent categories of *hard* by frequency and Appendix 2 by t-score; the highlighted words are those which are shared between *hard, difficult* and *challenging*.

Hard appears to collocate most often in ways which suggest negative prosody—that is, the lexical pairings are likely descriptive of things which produce discomfort in some form or another. Over the entire 450-collocate range, verbs and their forms which suggest effort are the most numerous—*working*, *worked*, *tried*, *trying*, *drive* and *earned*—and of these, lexical items suggestive of cognition make up more than half with such words as *tried*, *looking*, *learned*, *hearing*, *feeling* and *bargaining*. *Hard*, however, is versatile and tenacious, forming frequent idioms which are easy to use in copious situations. Table 7 indicates the potential *hard* has for forming idiomatic expressions, with items like *hard working*, *hard hit*, *hard line*, *hard pressed*, *hard core*, *hard currency*, *hard fought*, and *hard hitting*.

Table 7 Top 10 Unique Collocations of *Hard* by Frequency and T-Score

Hard Collocation by Frequency

	Item	Frequency
1	working	4347
2	worked	4039
3	hit	2375
4	line	1735
5	just	1586
6	pressed	1446
7	take	1311
8	core	1258
9	currency	1255
10	tried	1136

Hard Collocation by T-Score

	Item	T-Score
1	working	61.99259
2	worked	61.399611
3	hit	44.892348
4	pressed	37.4721
5	line	34.896173
6	core	34.478938
7	currency	33.75829
8	fought	31.859447
9	hitting	30.322329
10	tried	29.272157

Interestingly, impermeability items which pair with *hard* to describe material qualities are among the least numerous over the top 450 collocate span (see Appendix 1 and 2). One might consider material quality to be the source of the semantic identity of *hard* since there is in reality a preponderance of solid material items and a dearth, by comparison, of actions requiring

effort. Corpus information may, however, point us in the opposite direction: the material quality of the impermeable item may obtain its identity from the effort required to penetrate its surface—a rock may be called hard because effort is required to break it.

Table 8 Concordance Lines for *Hard* across Categories

the Internet. <p> Microsoft is	`hard	core about the Internet—very hard
an answer to Russia's need for	hard	currency and a market for Russia's weapons
or be strong enough to erode the	hard	rock into which some canyons are carved.
a flamboyant star of the British	hard	rock scene for almost 20 years. He took
You really should go out and hit them	hard."	So Nixon would go out and hit them
isn't a beautiful area, but it's just	hard	to find doctors that enjoy
As we've discovered here, it's all	hard	work. But if we keep playing with
a presentation day for their	hard	working students on Friday 11 June 1993,

Many collocate pairs utilizing *hard*, such as *hard core* and *hard rock*, are metaphorical usages of *hard* which have become idiom. In the case of *core*, the usage in the concordance lines, above, suggest an extreme favoring of some material or item such as the internet. *Hard rock*, likewise, suggests the quality of extremism, and has become the name for a form of music popular since the late 1980's. Hard rock has gained much press due to the extreme tonality and the acute radicalism of the performers, allowing for its popularity as a subject in the press. Though idiom, these terms are not necessarily restricted to those identified above, but may be broadened to the general material. With more usage of collocate pairs in their idiom forms, however, pairings lose their spacing and become single compound items like *hardcore*, *hardliner* and *hardball* as well as hyphenated compounds.

4.2 Collocations of *Difficult*

Difficult appears in 81,089 lines of collocation in the Bank of English. Of the top 450 collocates of *difficult*, 104 are unique by frequency and a 93 are unique by t-score. This seems

to suggest that *difficult* collocates more generally than *hard* or *challenging*. Collocates of *difficult* can be categorized under the headings quality, people, situation, transformation, quality, communication, general verbs and cognition—more categories than *hard* (see Appendix 3 and 4 for difficult collocates by frequency and t-score, respectively). The two categories for general verbs and cognition contain the most collocates of *difficult*.

Difficult, like *hard*, appears to collocate such that a negative prosody results; even within the top ten collocates, we can see many potential pairings which show this (see Table 9): *difficult children, for instance, difficult (to) control, became difficult, difficult answer, difficult (and) costly*, and *difficult change*.

Table 9 Top 10 Unique Collocations of *Difficult* by Frequency and T-Score

	Difficult Collocation by Frequency			*Difficult* Collocation by T-Score	
	Item	Frequency		Item	T-Score
1	much	1305	1	much	21.013883
2	many	703	2	thing	14.069586
3	children	377	3	expensive	13.150551
4	during	343	4	might	11.274588
5	control	337	5	became	10.573702
6	became	314	6	control	10.407136
7	change	288	7	answer	10.068062
8	mean	261	8	costly	9.378703
9	actually	254	9	which	8.282088
10	expensive	246	10	issue	8.151583

This is not particularly enlightening as a fact, yet broadening this idea across other collocates and categories, we begin to see the kinds of negative associations *difficult* picks up. Cognitive effort in the form of recognizing, thinking, finding an answer, and understanding in most forms easily pairs with *difficult*. Communication ideas like speaking, answering, argument and language,

likewise cognitive but separated from this category due to their proliferation, are also strong to collocate with *difficult*—more so than *hard. Children*, which appears as the third-highest unique collocate, is an interesting case—especially since, on this list, it tops even such groups as patients and shareholders, both known for their level of unmanageability. This may be due to the growth in recent years of parenting magazines, books and other texts where children feature. Whereas *hard* pairs with ideas of effort, conflict and impenetrability, *difficult* pairs with concepts of people, situational management and their associated troubles. *Hard* and *difficult* could be said to exist separately on a cline of manageability (see Table 10).

Table 10 Concordance Lines for *Difficult* across Categories

to a very complicated and	difficult	answer and I don't think that the
are, in many cases, not so much	difficult	as virtually impossible. In
If it seems like a particularly	difficult	change to make, I find it helps
teachers prefer to deal with really	difficult	children and adults by exclusion.
the necessary exams are	difficult,	expensive and take little account of the
care reform, the most momentous and	difficult	issue facing his administration.
position. Both men face many	difficult	questions and skeptical senators.
we live. Although a community is a	difficult	thing to define, it is easy to
were also fiercely independent and	difficult	to control. The English dominated
a statement: `There remains much	difficult	work for us to do against

4.3 Collocations of *Challenging*

Challenging appears in 7,446 lines of collocation in the Bank of English. Of these, 3,778 are adjective uses while 3,668 are verb uses in the continuous (or progressive) tense suggesting ongoing action, plans. Of the top 450 collocates for *challenging*, 320 are unique by frequency while 305 are unique by t-score. This is interesting since it suggests a more narrow usage for *challenging* than for either *hard* or *difficult.* Collocates for *challenging* may be grouped under the following headings: quality, people, institutions, status, locations, cognitive, cultural artifact

and quantity (see Appendix 5 and 6). This list of categories provides early evidence for the view that *challenging* is utilized more narrowly.

As we examine the components of each list, several interesting features emerge. The first is that the quality category contains multiple collocates which are positive in nature: exciting, interesting, capable, fun, stimulating, innovative, top, new and enjoyable. None of these words are found within the top 450 collocates for *hard* or *difficult*, which is not to say that negative words are not found in *challenging* collocates—there are simply significantly fewer. The second feature is that of lists of people. Both *hard* and *difficult* collocate with people-words, but neither collocates with specific individuals as *challenging* does. Given that *challenging* contains numerous words for institutions and status, it seems appropriate to have names of individuals—like Thatcher, Bush, Gorbachev and Clinton—challenging these structures or being challenged by them. *Challenging* collocates with words for groups of people who declare against marginalization, such as women and feminists.

A third interesting feature about *challenging* is the fact that, unlike *hard* and *difficult*, which collocate with cognitive action words such as seeing, thinking and reading, *challenging* collocates with cognitive objects such as projects, ideas, assumptions and activities. In addition to these intellectual pursuits is the category for cultural artifacts, including items such as music, art, books, goals, film, games and knowledge. This seems to suggest that *challenging* is chosen when an interesting or intellectual goal is to be attained. A final interesting feature of *challenging* is the fact that in terms of frequency or t-score, *challenging* collocates lowly, whereas *hard* and *difficult* collocate more highly on both accounts (see Table 11).

Table 11 Top 10 Unique Collocations of *Challenging* by Frequency and T-Score

	Challenging Collocation by Frequency			*Challenging* Collocation by T-Score	
	Item	Collocation Frequency		Item	T-Score
1	new	148	1	exciting	9.970279
2	exciting	104	2	interesting	8.485349
3	mr	103	3	capable	7.825627
4	government	89	4	title	7.421997
5	interesting	81	5	role	6.773832
6	both	77	6	authority	6.754778
7	less	71	7	intellectually	6.597769
8	title	68	8	fun	6.561725
9	capable	66	9	ideas	6.151818
10	court	65	10	assumptions	6.062072

Comparing the first collocates of each word, it is evident which is more frequently chosen, and which creates more relevant collocation pairings (see table 12).

Table 12 Comparison of First-Ranked Items by Frequency and T-Score

	Hard		*Difficult*		*Challenging*	
Item	working	working	much	much	new	exciting
Freq	4347		1305		148	
T-score		61.99259		21.013883		9.970279

Table 13 Concordance Lines for *Challenging* across Categories

of the Pentagon Papers, thus	challenging	a court injunction against their
wanted work to be exciting,	challenging	and enjoyable with management
was not easily. The classes were intellectually	challenging	and it was clear
have taken very strong positions,	challenging	government foreign policy,
bypass Mrs Thatcher's objections	challenging	her to veto moves forward. From
for foremost publisher of new,	challenging	Scottish fiction since Peter
ongoing litigation	challenging	the validity of the tax. However, if the
and that he can soon start	challenging	to reclaim his place in the
of their academic authority. In	challenging	traditional standards on the
of the Pentagon Papers, thus	challenging	a court injunction against their

4.4 Grammatical Patterns of *Hard*

Of the three words under consideration, *hard* exhibits the greatest versatility through its patterning. Table 14 shows usage patterns for *hard*.

Table 14 Lines of Concordance Exhibiting the Major Lexical Patterns of *Hard*

a nice show and it's not just tap dancing. So it's always	hard	for me to say I'm a tap dancer, because I know half the people in
in parliamentary democracy. This makes it increasingly	hard	for the government to deny the party legal status
rates and disrupted financial markets, but they make it	hard	for the government to use traditional fiscal stimulus to help their
play in colonial New England, but circumstances made it	hard	for them to come together on a regular basis in the absence of
on the street level. This is a	hard	time to be selling music, for
thrust upon us, and that our ancestors had fought so	hard	to achieve, are a challenge we must find ways to master. If we
offered to young dancers in Britain, where regular work is	hard	to come by. If the Moulin Rouge is your first dancing job, you
in Bosnia. Virtually, all sides here agree it would be	hard	to find a clearer challenge to the principles on which the CSCE
Board to the players. We've all worked	hard	to get to this stage and I'm
Board and as Mayor and Councilmember, I've worked	hard	to give our kids the tools they need to succeed. As your County
socioeconomic level. On the face of it, this finding is	hard	to reconcile with the notion that it is merely poor opportunity
that not all of them were. It was	hard	to see how any democratic mechanism

The patterns exhibited is likely not exhaustive, however these patterns most highly appear in the Bank of English Corpus. Of particular interest is how strongly *hard* patterns with the lexical items, *work*, *for* and *to-infinitive* (to-inf). Work is either hard—requiring great effort—or individuals, groups and institutions are identified as working hard—that is, expending great effort. In this way, work appears to be a fulcrum around which *hard* pivots. Verbs other than work tend to appear within the to-inf form, and, frequently, in this form, hard is preceded by an intensifier such as *so*, magnifying the effort required to attain the implied or stated goal. In the most basic usage of hard—*NOUN is hard*—the collocates preceding *is*, life and work, drop in frequency quickly from 76 to 27 (t-scores of 8.5782 and 4.9440, respectively) within these first two words. This appears to suggest that this pattern is used in a quite narrow sense, though we might expect this form to be used to describe material qualities quite frequently. It is interesting

to see that the form *hard for PRO/NOUN to-inf* attracts primarily lexical items for cognition: *say, get, understand, believe, see, say*.

4.5 Grammatical Patterns of *Difficult*

Difficult appears in fewer lexical patterns than hard, but they tend towards a greater degree of difficulty: *PRONOUN/CONJ/ NOUN is intensifier/ ADV difficult inf, very difficult for PRO/NOUN inf,* and *CONJ/DET/SAY PRO/NOUN is difficult inf* (see Table 15 and Appendix 8).

Table 16 Lines of Concordance Exhibiting the Major Lexical Patterns of *Difficult*

Pat has to walk on eggshells in teaching the class. It's very	difficult	for me to even express what those are but that's one of the
held accountable. And I commend him for that. It is much more	difficult	to hold Congress accountable. And they are clearly a partner in
Manufacturing expanded in so many directions that it is	difficult	to portray or to summarize its evolution. The factory system

While not obsolete, the pattern *be@ difficult* on its own registers significantly lower than the above patterns. In fact, it is subsumed as the foundation of these greater-used patterns. As with *hard*, this set of patterns is liable to intensification through a variety of adjectives. *Difficult* appears in the final set of forms with a group of grammatical items including conjunctions like *because*, *so* and *although* as well as determiners like *that*; in addition, the past-tense verb, *said*, as a projecting verb appears in this group. These appear to signify the use of difficult as a specific qualification as well as an add-on in support of, or in contrast to a previous idea—*but it is difficult to see*, for instance. Furthermore, *difficult* colligates highly with the grammatical items *for* and *to-inf*. Statistically speaking, English users are less likely to say *this test is difficult* than they would say *this test is difficult to write*. This appears to suggest that *difficult* is less an umbrella term for an uncomfortable experience and more a term requiring specificity.

4.6 Grammatical Patterns of *Challenging*

Like *difficult*, *challenging* exhibits few patterns (see Table 17 and Appendix 9); this is unsurprising given the level of collocation which *challenging* shows in the Bank of English.

Table 17 Lines of Concordance Exhibiting the Major Lexical Patterns of *Challenging*

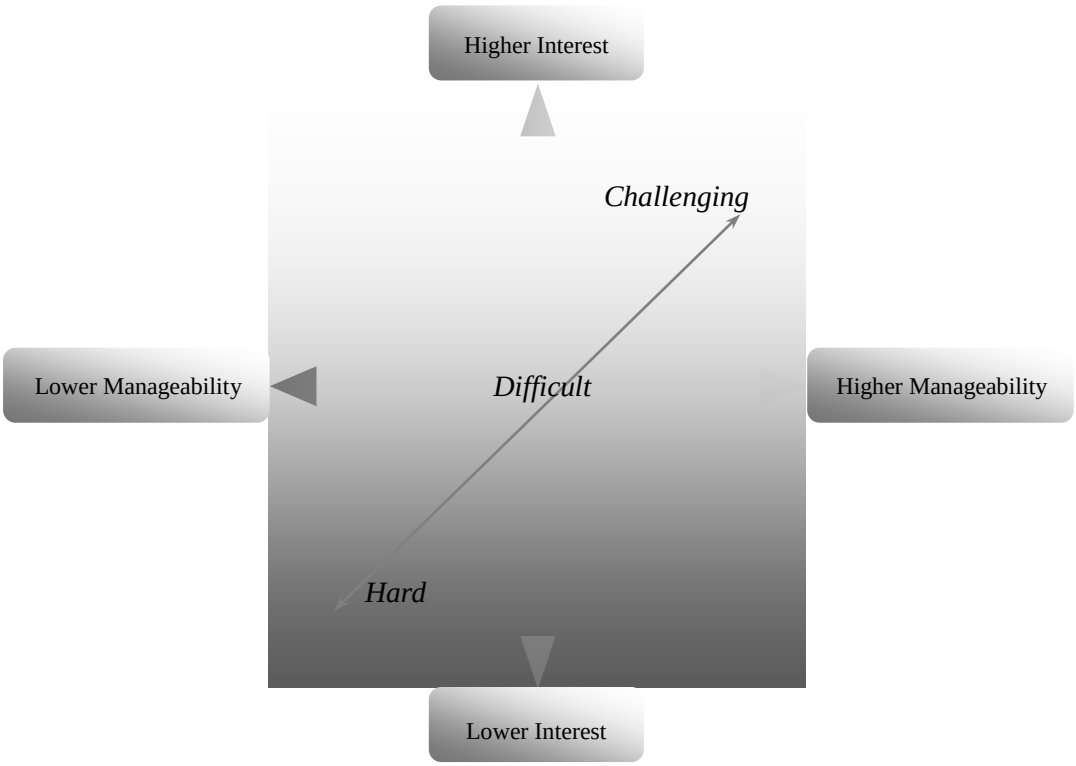
effective means of motivating employees if they are both	challenging	and attainable. Goals must also be personally
for anyone who would rather be involved in an exciting and	challenging	environment than stuck behind a desk in an
century went along, but the gender ideals of the era made a	challenging	form of marriage even more difficult to realize.
course is as convenient as it is	challenging.	Just 11 miles off I-81 in
in the territories. Rabin is	challenging	Prime Minister Yitzhak Shamir in
James Randi (1982) has been	challenging	such claims for years by

As a collocate, *challenging* is most likely to appear as one member of an adjective pairing *ADJ and challenging* or *challenging and ADJ*; the second member of this binary tends to be positive rather than negative. *Challenging* is frequently seen as a progressive verb and when followed by an individual (especially a political figure), an institution or a status idea, typically indicates *going against*.

5.0 Pedagogical Implications

The study of *hard*, *difficult* and *challenging* is pedagogically enlightening in several ways. First, while these words may be considered synonymous, the type of synonymy they exhibit varies. At best, these three words are descriptively synonymous, but not absolutely or completely in Lyon's vernacular. These words have different situational usages, and thus differing lexical and grammatical patterning. They may be said, however, to reside on a cline expressing manageability and interest (see diagram 1).

Diagram 1: Usage Matrix of *Hard*, *Difficult* and *Challenging*



Second, as Sinclair has been apt to point out, speakers of a language are able formulate ideas about language from personal insight and experience, but rarely do we find genuine facts of language due to the unavailability of in-class data. Corpus study with collocation software allows us to find specific facts about language which go beyond language ideas, assumptions and notions and in-class access to a corpus and concordancing software may make facts easier for both teachers and students to verify, particularly in regards to synonymy. This study has identified many ways in which even synonymous-seeming words differ in their prosody and use. Understanding how the grammar of a lexical item will assist students in fashioning statements which clearly articulate their ideas with the item as a core. Recognizing how a lexical item absorbs meaning through semantic prosody, however, gives insight into how a language creates the reality of the external linguistic situation.

Language learners need insight into how their statements not only relate their personal experience and knowledge to others (the internal situation) but how their language use creates their external language situation, that is, exercising control of a conversational situation over a series of statements through conscious word choice. While synonymy is a useful tool for discovering similar words, it is not entirely useful for understanding how a particular set of words can create a positive discourse environment rather than a negative one. Understanding how semantic prosody operates in language through corpus study gives teachers the means to dig for linguistic facts.

6.0 Conclusion

While my own intuition has served me well in identifying the differences between the words *hard, difficult* and *challenging,* native intuition is generally unreliable for specific patterning and relationships between lexical items in language use. It has taken a corpus study into these words' functioning to provide hard facts about these lexical items. This information confirms my idea that *hard* and *difficult* create relationships with other words which appear more negative whereas *challenging* goes the other direction. While I can use this information to motivate my students in the classroom to choose more positive language to create their linguistic environment (ie: the classroom mood), much research needs to take place to understand the relationship between lexical choice and motivation—in particular, how language can create one's own extralinguistic situation and use language to open cultural and social doors. I have come to feel that the language-learning environment is a microcosm of the world of the language user, and how one learns to negotiate meaning via lexical choice can help or hinder their ability to negotiate extralinguistic meaning in the culture of the language users. In this vein, *hard* and

difficult, I considered, were negative words which students used to create their language-learning environment and unwittingly caused a drop in morale with each use while *challenging* would work the opposite way. Corpus study has at least confirmed that the former two do gravitate towards words which produce a negative semantic prosody whereas the latter floats towards the opposite.

In future, studies relating semantic prosody and motivation in regards to creating one's linguistic situation would be highly advantageous for future language students and teachers as the results could provide students and teachers with more tools to motivate the language learning process. Furthermore, these same items can greatly improve students' ability to negotiate meaning via word choice. I have made the decision in my own classroom to alert students to this seeming quirk of language—that hearers are sensitive to positive and negative messages and favor the positive. Now I can show them how *hard* and *difficult* create a negative linguistic environment and the opposite with *challenging*.

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Appendix 1 Top 30 Collocates of *Hard* in Each Category by Frequency

Freq	judgement	effort	plurality	combat/ strike/ competition	constituent	singularity	impermeability
1	just	working	all	hit	core	currency	rock
2	good	worked	lot	fought	back	man	boiled
3	soft	***tried***	men	hitting	disk	day	ball
4	cold	***try***	liners	won	evidence	act	edged
5	sure	drive	eyes	pushed	nosed	graft	ground
6	success	earned	eggs	training	money	worker	road
7	victory	done	fans	fight	cash	image	hat
8	fallen	***looking***	drives	push	headed	egg	edge
9	please	doing	hats	playing	facts	drug	harder
10	honest	***tries***	twice	played	shoulder	ecu	hearted
11	truth	wearing	boys	fighting	copy	cafe	skin
12	maybe	drinking	kids	bitten	surface	recession	floor
13	credit	running	stories	train	disc	dedication	nut
14	sheer	taking	yards	hits	space	commitment	wood
15	dry	***living***	disks	battle	ram	reward	shell
16	fair	driving	farmers	trained	computer	determination	steel
17	improve	***slog***	politicians	knocks	figure	time	edges
18	talent	***learned***	supporters	battled	voice	life	stick
19	sharp	***hearing***	guys	racing	rain	bit	faced
20	decent	prepared	lads	strike	cheese	season	
21	very	***feeling***	people	struck	wind	anything	
22	so	heavy	some	blow	stomach	winter	
23	find	***bargaining***	team	losing	nails	communist	
24	too	swallowed	feelings	beat	surfaces	task	
25	really	lesson	questions	win	mouth	pin	
26	long	miss	decisions	pushing	snow		
27	enough	labor	words	race	memory		
28	hard	***learnt***	data	struggle	plastic		
29	still	***ensure***	choices	physical	heads		
30	even	***bargain***	habits	plays	metal		

Highlighted Collocates are common to *difficult* or *challenging*. Bold, italicized text in the effort column shows collocates which are related to cognitive functions. Blank slots indicate no remaining collocates in the top 450 collocates for the category.

Appendix 2 Top 30 Collocates of *Hard* in Each Category by T-Score

Freq	judgement	effort	plurality	combat/ strike/ competition	constituent	singularity	impermeability
1	soft	working	liners	hit	core	disk	rock
2	evidence	worked	drugs	fought	currency	man	boiled
3	facts	***tried***	lot	hitting	nosed	worker	edged
4	slog	try	disks	pushed	headed	frost	shoulder
5	cold	earned	surfaces	push	cash	liner	ball
6	honest	drive	men	won	heels	act	surface
7	sheer	***look***	fans	fight	graft	megabyte	ground
8	feel	***training***	lads	bitten	copy	pc	edge
9	harder	done	twice	knocks	eggs	cop	edges
10	real	***tries***	eyes	hits	ram	time	floors
11	please	drinking	farmers	trained	disc	bit	
12	floppy	wearing	frosts	fighting	ecu	matter	
13	dry	drives	everybody	battled	hats	task	
14	truth	swallowed	megabytes	train	hat	thought	
15	just	***learned***	4mb	pulling	hearted	taskmaster	
16	good	driving	times	reward	nut	life	
17	conscientious	***bargaining***	sometimes	bop	egg		
18	disciplined	***lobbied***	feelings	slapped	porn		
19	brittle	***lobbying***	choices	campaigning	dedication		
20	jolly	***learnt***	habits	playing	nails		
21	very	***bargain***	decisions	campaigned	cafe		
22	so	lesson	data	victory	cheese		
23	too	***hearing***	questions	battle	stomach		
24	really	crack	lessons	struggled	recession		
25	hard	running	courts	scrabble	mb		
26	enough	***concentrating***	players	charging	pornography		
27	long	labor	truths	pushes	shell		
28	fast	stared	communists	pitches	wired		
29	extremely	raining	realities	kicked	rain		
30	pretty	blowing	rules	pounding	liquor		

Highlighted Collocates are common to *difficult* or *challenging*. Bold, italicized text in the effort column shows collocates which are related to cognitive functions. Blank slots indicate no remaining collocates in the top 450 collocates for the category.

Appendix 3 Top 30 Collocates of *Difficult* in Each Category by Frequency

Freq	*Quantity*	*people*	*transformation*	*quality*	*situation*	*communication*	*General Verbs*	*Cognition*
1	much	children	became	mean	issue	answer	bring	recognize
2	many	child	change	alone	relationship	talk	treat	find
3	expensive	companies	leave	slow	moment	move	access	make
4	added	person	birth	somewhat	challenge	example	carry	made
5	costly	subjects	grow	easier	present	ask	apply	found
6	very	patients	step	generally	negotiations	meet	pass	makes
7	more	firms	progress	emotional	operation	write	arrange	see
8	most	master	reform	experienced	marriage	writing	enter	know
9	so	doctors	focus	secure	operate	admitted	path	making
10	even	patient	discover	slightly	challenges	language	score	think
11	extremely	managers	transfer	accurately	solution	express	prepare	understand
12	too	parent	phase	tend	matches	speak	get	imagine
13	some	people	become	accurate	condition	discuss	going	finding
14	any	players	becomes	delicate	pregnancy	teach	do	believe
15	quite	parents	becoming	sensitive	life	communication	keep	finds
16	really	students		particularly	situation	argument	come	face
17	long	teams		especially	work	suppose	put	accept
18	far	shareholders		notoriously	conditions	trick	getting	cope
19	enough	teachers		easy	job	say	play	process
20	little	opponents		hard	position	says	obtain	maintain
21	difficult	individuals		complex	problem	prove	beat	read
22	such			seems	circumstances	proved	win	assess
23	still			obviously	problems	question	trying	faced
24	rather			exactly	course	deal	break	determine
25	ever			certainly	issues	tell	trading	avoid
26	incredibly			painful	situations	questions	reach	proving
27	equally			politically	case	predict	start	handle
28	doubly			pretty	market	explain	live	identify
29				extraordinarily	game	words	hold	judge
30				complicated	economic	define	stop	distinguish

Highlighted Collocates are common to *hard* or *challenging*. Blank slots indicate no remaining collocates in the top 450 collocates for the category.

Appendix 4 Top 30 Collocates of *Difficult* in Each Category by T-Score

Freq	*Quantity*	*people*	*transformation*	*quality*	*situation*	*communication*	*General Verbs*	*Cognition*
1	much	subjects	became	expensive	issue	answer	accomplish	treat
2	actually	child	change	costly	relationship	negotiations	access	arrange
3	somewhat	children	grow	accurately	operate	challenge	apply	recognize
4	many	people	make	slow	feat	challenges	carry	teach
5	very	opponents	makes	accurate	periods	talk	raises	isolate
6	more	parents	made	delicate	angle	express	manoeuvre	coping
7	most	shareholders	making	easier	phase	proven	breed	master
8	extremely		becomes	unnecessarily	dilemma	diagnosis	secure	adjustment
9	too		become	experienced	pregnancy	write	rendered	embarrassing
10	so		becoming	obscure	moment	communication	prosecute	organize
11	even		transition	fraught	passage	articulate	reproduce	discover
12	quite			objectively	passages	admitted	tread	observe
13	really			underestimate	task	specify	incorporate	trick
14	such			horrendously	situation	prove	poses	identification
15	still			excruciatingly	conditions	proved	prepare	analyse
16	some			disruptive	life	say	get	detection
17				increasingly	circumstances	question	going	find
18				particularly	job	questions	avoid	found
19				especially	position	explain	getting	imagine
20				notoriously	situations	proving	trading	finding
21				difficult	period	tell	reach	understand
22				dangerous	issues	describe	beat	see
23				painful	problem	persuade	resist	decision
24				complex	problems	convince	break	decisions
25				incredibly	work	demanding	consuming	finds
26				extraordinarily	tasks	admits	appreciate	achieve
27				politically	terrain	communicate	defend	know
28				far	cases	says	swallow	predict
29				enough	relationships	challenging	sell	believe
30				terribly	environment	motivate	escape	cope

Highlighted Collocates are common to *hard* or *challenging*. Blank slots indicate no remaining collocates in the top 450 collocates for the category.

Appendix 5 Top 30 Collocates of *Challenging* in Each Category by Frequency

Freq	*Quality*	*People*	*Institutions*	*Status*	*Locations*	*Cognitive*	*Cultural Artifact*	*Quantity*
1	new	mr	government	title	world	ideas	music	both
2	exciting	women	court	role	place	intellectually	art	less
3	interesting	others	authority	right	britain	assumptions	book	more
4	capable	mrs	president	party	europe	material	books	most
5	top	thatcher	country	traditional	local	project	goals	very
6	fun	bush	state	honours	manchester	activities	film	some
7	high	michael	law	roles	nature	idea	games	even
8	stimulating	male	social	courses	nation	projects	knowledge	too
9	innovative	critics	lawsuit	leadership	setting	review	beliefs	always
10	enjoyable	yeltsin	policy	political	domestic	claims	films	rather
11	accepted	feminist	federal	power	hole	activity	perceptions	quite
12	appeal	gorbachev	management	status	california	hope	theories	really
13	prime	scottish	provide	united	russia	hopes	literature	often
14	varied	audience	constitutionality	career	channel	notion	sport	enough
15	provocative	champions	legal	championship	global	study	perspectives	bit
16	adventure	clinton	established	test	pluto	theory	record	ever
17	creative	blair	board	lead	routes	basis	practices	especially
18	original	rivals	rule	conventional	position	discussion	tradition	equally
19	enjoy	client	standards	league	environment	tone	will	either
20	adverse	therapist	ruling	major	course	interests	way	extremely
21	effective	artists	schools	promotion		questioning	game	far
22	entertaining	candidate	establishment	culture	ahead	teaching	play	
23	threatening	fellow	firm	opposition	places	views	subject	
24	fresh	mugabe	laws	quo	areas	attempt	puzzles	
25	modern	readers	legality	stereotypes	terrain	advanced	technically	
26	unique	students	official	validity		critical	wisdom	
27	beautiful	team	premiership	highly		intent		
28	confident	players	ban	truly		notions		
29	encouraging	communist	church	leaders				
30	interested		curriculum	powerful				

Highlighted Collocates are common to *hard* or *difficult*. Blank slots indicate no remaining collocates in the top 450 collocates for the category.

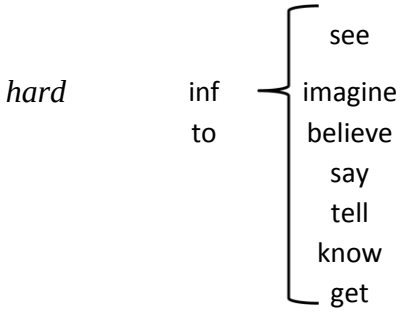
Appendix 6 Top 30 Collocates of *Challenging* in Each Category by T-Score

Freq	*Quality*	*People*	*Institutions*	*Status*	*Locations*	*Cognitive*	*Cultural Artifact*	*Quantity*
1	exciting	thatcher	court	validity	place	intellectually	traditional	less
2	interesting	critics	roles	title	manchester	ideas	art	both
3	capable	mr	lawsuit	role	pluto	assumptions	music	constantly
4	fun	feminist	government	authority	setting	notion	culture	highly
5	stimulating	yeltsin	constitutionality	honours	hole	questioning	beliefs	openly
6	innovative	mrs	conventional	leadership	nature	review	goals	directly
7	top	male	legality	status	slopes	test	theory	strongly
8	new	bush	establishment	championship	walesa	creative	book	definitely
9	enjoyable	mugabe	federal	quo	scenic	notions	perspectives	sufficiently
10	varied	therapist	curriculum	promotion	camelot	hopes	theories	high
11	provocative	gorbachev	ruling	stereotypes	outdoor	intent	sport	hardly
12	original	champions	established	career	domestic	perceptions	myths	mildly
13	adverse	rivals	incumbent	supremacy	environment	discussion	idea	more
14	entertaining	client	standards	dominance	course	preconceptions	practices	most
15	powerful	candidates	opposition	racism	terrain	teaching	knowledge	very
16	encouraging	leaders	law	orthodoxy	places	claims	salvation	even
17	accepted	darwin	orthodox	legitimacy	ahead	view	teachings	particularly
18	disturbing	riders	lawsuits	trophies	ways	views	poems	some
19	unique	audiences	patriarchal	social	positions	homophobia	literature	quite
20	inspiring	listeners	premiership	lead	environments	search	wisdom	equally
21	vibrant	theologians	hegemony	dominant	piste	angry	will	always
22	bold	mazowiecki	legal	coalition	saturn	intend	puzzles	bit
23	fascinating	schumacher	laws	liberal		insights	technically	often
24	appeal	humanity	monopoly	democrats		basis	karma	extremely
25	lively	president	management	program		solving	way	enough
26	advanced	students	policy	conservative		academically	puzzle	especially
27	adventurous	communist	rule	disability		critical	subject	immensely
28	thoughtful	players	suit	power		seeks		consistently
29	daring	teams	judicial	integrity		strategy		invariably
30	confident	pupils	conventions	appropriately		seeking		incredibly

Highlighted Collocates are common to *hard* or *difficult*. Blank slots indicate no remaining collocates in the top 450 collocates for the category.

Appendix 7 Grammatical Patterns for *Hard*

A)



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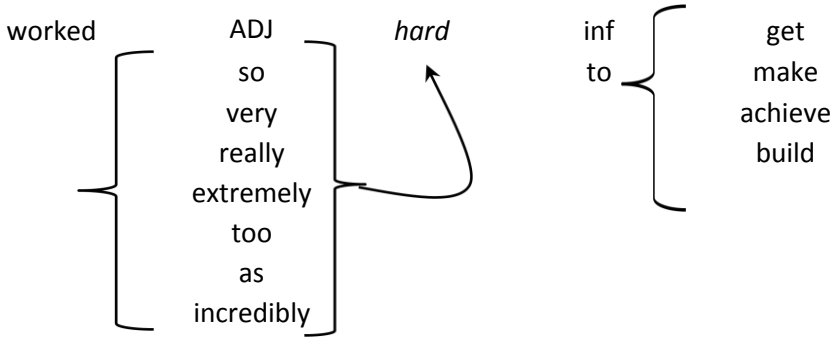

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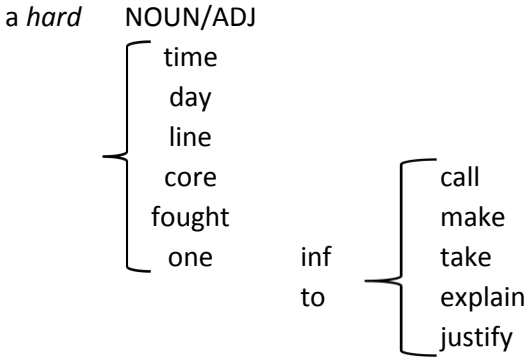

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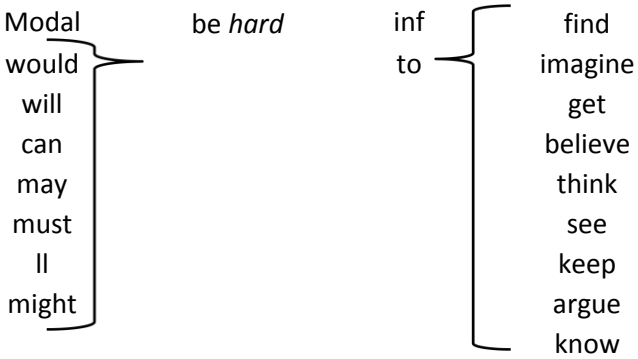

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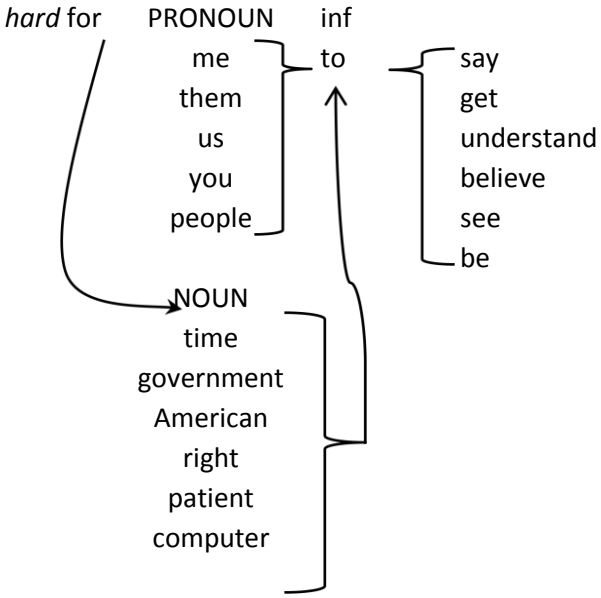
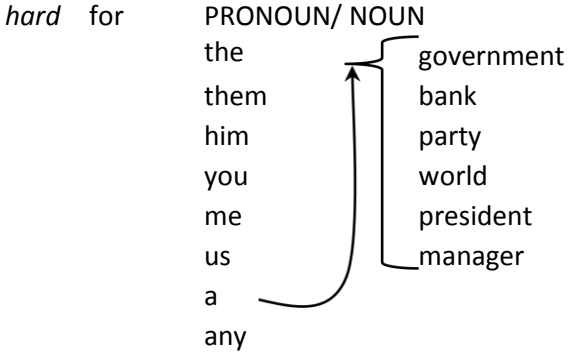
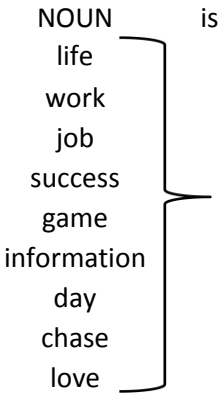

hard for
PRONOUN
me
them
us
you
people
inf
to
say
get
understand
believe
see
be
NOUN
time
government
American
right
patient
computer

F)


hard for
PRONOUN/ NOUN
the
them
him
you
me
us
a
any
government
bank
party
world
president
manager

G)


NOUN
is *hard*
life
work
job
success
game
information
day
chase
love

H)

PRONOUN	had	PPV	so *hard*	inf	achieve
labour	have	worked		to	get
lads	has	fought			avoid
mother		tried			date
students		become			find
others		laughed			present
government		concentrated			build
					keep

I)

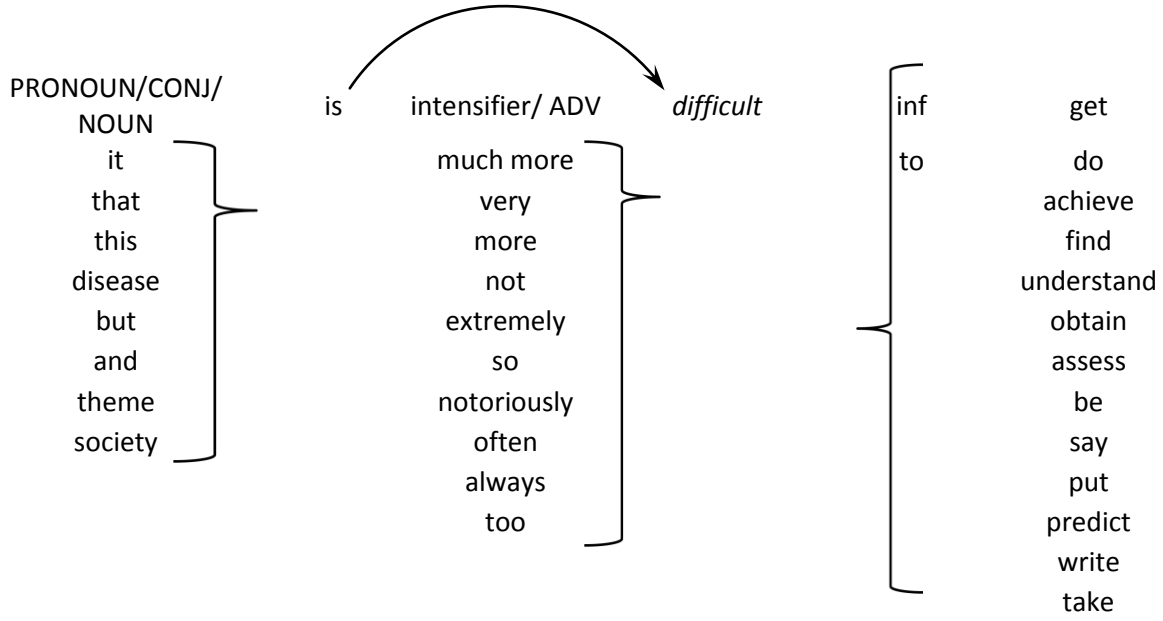
NOUN	've	worked	hard	inf	get
	have			to	be
	had				give
	d				build
	really				keep
	never				make
	always				achieve
					gain
					bring
					come
					find
					improve

J)

NOUN	is *hard*	inf	come
work		to	predict
city			beat
ground			get
day			find
trith			tell
wood			resist
job			

Appendix 8 Grammatical Patterns for Difficult

A)



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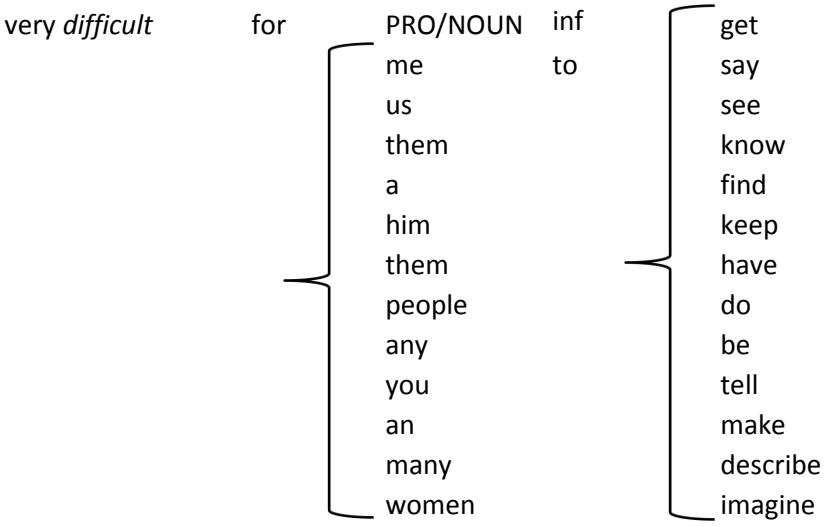
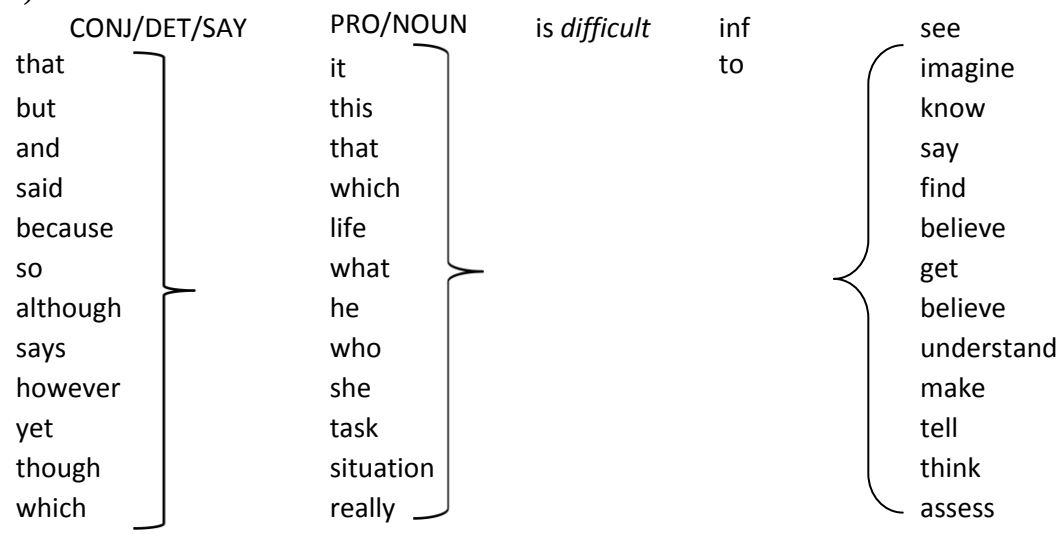


C)


CONJ/DET/SAY
PRO/NOUN
is *difficult*
inf
to
that
but
and
said
because
so
although
says
however
yet
though
which
it
this
that
which
life
what
he
who
she
task
situation
really
see
imagine
know
say
find
believe
get
believe
understand
make
tell
think
assess

Appendix 9 Grammatical Patterns for *Challenging*

A)

a *challenging* NOUN
- position
- time
- task
- year
- job
- target

B)

both *challenging* and ADJ
- attainable
- emotionally draining
- harmonious
- exciting
- worthwhile
- demanding
- satisfying

C)

a	ADJ	and	*challenging*
most	exciting		
more	interesting		
an	difficult		
the	new		
	complex		
	stimulating		
	original		
	beautiful		
	important		
	rewarding		
	unique		
	fun		
	innovative		
	adventurous		