

# Comparative Corpus-Based Analysis of “Hard” and “Difficult” and Comparison With Junior High School English Course Books

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This study compares the usage of “hard” and “difficult” in Japanese junior high school English textbooks with corpus data, highlighting frequency and usage differences. English education in Japan is increasingly emphasizing communicative competence. Incorporating authentic language data into teaching is crucial, especially for Japanese teachers, as they might seek references and authentic materials for teaching English as an International Language. However, exclusive reliance on authentic English may not always be optimal due to pedagogical and cultural considerations.

本研究では、日本の中学校英語教科書における「hard」と「difficult」の用法をコーパスデータと比較し、頻度と用法の違いに注目した。日本の英語教育は、コミュニケーション能力を重視する傾向にある。国際言語としての英語を指導する際に、生きた英語を参考資料や教材として求める可能性があるため、特に日本人教師にとって、実際に使用されている言葉のコーパスデータを教育に取り入れることは重要である。しかし、教育上および文化的な配慮から、単に本物の英語のみに頼ることが必ずしも最良の方法とは限らない。

Keywords: Corpus-based research, junior high school, English course books, frequency, synonyms

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English today is often referred to as English as an International Language when its users are focused on communicative efficiency rather than grammatical accuracy. This trend can also be seen in Japan, where the Ministry of Education, Culture, Sports, Science, and Technology emphasizes the need to acquire English as a tool for international communication. With the development of the Internet and information technologies, teachers now have extensive access to authentic language data and a wide range of teaching materials and tools. Given that most English teachers in Japanese junior high schools are non-native speakers of English, corpora can serve as valuable references for teachers' explanations and the creation of learning materials (Flowerdew, 2012), as corpora provide a reliable source of authentic English. However, this authentic English data does not always align with the language represented in designated English course textbooks in Japan.

The corpus-based approach is linked to the lexical approach, which is based on the idea that words are not used separately in language (Harmer, 2015). The lexical approach focuses on teaching lexis in collocations and chunks, which can help learners acquire real English instead of the artificial English presented in course books. This study uses corpus data to compare the way the adjectives “hard” and “difficult” and the adverb “hard” are presented in the junior high school English textbook series Sunshine English Course (Kairyudo, 2021) and New Horizon English Course (Tokyo Shoseki, 2021). This research aims to answer the following questions:

1. What is the usage frequency of these two words across various genres?
2. What “hard + noun” and “difficult + noun” collocations are more frequent and does this data match the presentations of collocations in English course books?
3. What “verb + hard” collocations are more frequent and does this data match the presentations of collocations in English course books?

This paper first describes previous corpus-based research of synonyms and analyzes the ways “difficult” and “hard” are presented in major British and American dictionaries as well as in two junior high school English textbook series. Data extracted from corpora are then presented, followed by answers to the research questions and discussion of the findings and further research questions.

## Previous Corpus-based Studies on Synonyms

Nowadays, many researchers and teachers consider corpus data to be a reliable source of authentic English and apply this data to their teaching practices. Shahzadi et al. (2019) compared “reach” and “arrive” synonym pairs using the British National Corpus (e.g., <https://www.english-corpora.org/bnc/>) and the Longman Dictionary of Contemporary English (<https://www.ldoceonline.com>). They found that “reach” is used more frequently than “arrive,” but the two verbs share many similar grammatical patterns. Their findings suggest that these patterns

can help teachers explain the differences in usage of these two verbs, providing an “effective strategy to distinguish and teach synonyms . . . in ESL classroom[s]” (Shahzadi et al., 2019, p. 51).

Petcharat and Phoocharoensil (2017) investigated three English synonyms—“appropriate,” “proper,” and “suitable”—in terms of meaning, genre, collocations, and grammatical features. The researchers used data from the Corpus of Contemporary American English (COCA; <https://www.english-corpora.org/coca>) and three dictionaries: *Longman Advanced American Dictionary* (2013), *Macmillan Collocations Dictionary* (Rundell, 2010), and *Longman Dictionary of Contemporary English* (<https://www.ldoceonline.com>). They determined that these three synonyms share the same core meaning but differ in “detailed meanings, degrees of formality, collocations, and grammatical patterns” (Petcharat & Phoocharoensil, 2017, p. 10). They also discovered that corpora could provide additional information not available in dictionaries and therefore suggested that corpora can be powerful learning tools to help students differentiate similar words.

Mikajiri (2023) adopted a different approach by comparing target-like lexical bundles used in Japanese elementary and junior high school English textbooks with a spoken English corpus, SubtlexUS ([http://www.lexique.org/?page\\_id=241](http://www.lexique.org/?page_id=241)). He discovered that the number and variety of lexical bundles used in textbooks exceeded those used in spoken English. Mikajiri (2023) suggested revising textbooks based on the real use of spoken English.

While the above-mentioned studies do not focus on the words “hard” and “difficult,” they illustrate the potential for teachers to use corpora as sources of additional information that cannot be found in dictionaries. These studies also highlight the possibility of discrepancies between the language presented in textbooks and the data from corpora.

### “Hard” and “Difficult” in Dictionaries

Dictionaries provide learners and teachers with reliable information about meanings, collocations, and examples of target language use. This study compares data obtained from four major dictionaries of both American English (AmE) and British English (BrE): The Merriam-Webster Thesaurus (AmE) (<https://www.merriam-webster.com/thesaurus>), hereinafter Merriam-Webster; Oxford Learner’s Dictionary (BrE) (<https://www.oxfordlearnersdictionaries.com/definition/english>), hereinafter Oxford; Collins English Thesaurus (BrE) (<https://collinsdictionary.com/dictionary/english-thesaurus>), hereinafter Collins; and Cambridge Dictionary

(BrE) (<https://dictionary.cambridge.org/dictionary>), hereinafter Cambridge.

Collins and Cambridge list solid or tough (e.g., hard floor, hard surface) as the first meaning for the adjective “hard,” aligning with Lindquist and Levin’s (2018) observation that dictionaries tend to prioritize physical explanations. However, Merriam-Webster lists ruthless (e.g., hard man) and Oxford lists difficult (e.g., hard choice) as the first meaning. Both of these are metaphorical, contrasting with the primarily physical meanings in Collins and Cambridge. Oxford ranks physical meaning sixth, and Merriam-Webster eighth (see Appendix A). Interestingly, however, the meaning of “hard” as difficult to do, using effort, or exhausting (e.g., hard work) occupies high positions in all four dictionaries: second in Merriam-Webster and third in Collins, Cambridge, and Oxford. This indicates a consensus between AmE and BrE on the high frequency of this meaning.

There is also agreement on the first meaning of the adverb “hard” in all four dictionaries: intensively (e.g., work hard). Other high-ranking meanings (see Appendix A) include with great force (e.g., don’t hit so hard, kicked the bin very hard) and strongly (e.g., rain hard).

All four dictionaries list challenging or not easy to do as the first meaning for “difficult” (e.g., difficult question, difficult problem), and all but Cambridge list problematical as the second meaning (e.g., difficult situation, difficult decision) (see Appendix B).

### “Hard” and “Difficult” in English Course Books

This study examines two English textbook series used in Japanese junior high schools: *Sunshine English Course* (Kairyudo, 2021) and *New Horizon English Course* (Tokyo Shoseki, 2021). All sentences containing the words “hard” and “difficult” (see Appendices C and D) were analyzed (see Table 1).

Further analysis revealed that the adjective “hard” in its physical meaning occurs only twice across both series and the abstract meaning is primarily used in the phrase “hard work”. There are no examples of other common uses such as hard choices and hard questions. Similarly, “hard” as an adverb is used two out of three times in both series in the phrase “practice hard.”

On the other hand, “difficult” often appears in the more complex structure “it + be + difficult + for + me/us/them + to + verb” (i.e., three of six times in *Sunshine* and five of 12 in *New Horizon*). In contrast, there is only one instance, in *New Horizon 3*, of “hard” used in the same manner: “It’s hard for me to

get up early” (Tokyo Shoseki, 2021, p. 39).

Interestingly, the Sunshine English Course includes 12 sentences using “difficult,” whereas the Sunshine English Course includes only six. Both frequently introduce the phrase “practice hard,” however, perhaps suggesting that students are likely to use this collocation more easily than others, or that this is the most common collocation with “hard.”

**Table 1**  
*Occurrences of “Hard” and “Difficult” in English Textbooks*

Term: Definition	English textbook	
	Sunshine	Horizon
Hard (adjective): Physical meaning (solid or tough)	2	0
Hard (adjective): Abstract meaning (ruthless)	3	3
Hard (adverb): Using effort	6	9
Difficult (adjective): Challenging, full of problems	6	12

**Corpus Data**

For this research, COCA (<https://www.english-corpora.org/coca>) was used to find frequency data for the terms and collocations. COCA contains more than one billion words across eight different genres: spoken language, fiction, magazines, newspapers, academic texts, television, movies, blogs, and webpages. It is one of the largest freely available, well-balanced, and widely used corpora of American English.

**Frequency of Term Usage by Genre**

As predicted, the highest frequency of the adjective “hard,” at 247.52 occurrences per million words, was found in blogs, while the lowest frequency, at 76.84, was found in academic English (see Table 2). Notably, usage in the spoken English genre ranked second.

The highest frequency of “hard” as an adverb (see Table 3), at 196.48, was found in the fiction genre, which was somewhat unexpected when compared to use of the adjective. The lowest frequency was again found in academic English. However, corpus and textbook data present different patterns. While “hard” is more frequently used as an adjective in the corpus, textbooks use it more as an adverb. In the *Sunshine* series, “hard” appears as an adjective five times and as an adverb six times, and in the *New*

*Horizon* series, three and nine times, respectively (see Table 1).

**Table 2**  
*Frequency of “Hard” (adjective) by Genre in COCA*

Genre	Frequency	Per million
All	198,246	199.64
Blog	31,834	247.52
Web	27,184	218.78
TV/movies	25,550	199.49
Spoken	29,970	237.60
Fiction	24,380	206.05
Magazine	27,522	218.27
Newspaper	22,601	185.65
Academic	9,205	76.84

**Table 3**  
*Frequency of “Hard” (adverb) by Genre in COCA*

Genre	Frequency	Per million
All	109,755	110.53
Blog	15,565	121.02
Web	13,331	107.29
TV/movies	16,821	131.34
Spoken	13,196	104.62
Fiction	23,248	196.48
Magazine	12,269	97.30
Newspaper	11,801	96.93
Academic	3,524	29.42

The highest frequency of “difficult” was found in academic English (see Table 4), indicating a clear preference for “difficult” over “hard” in this context. Also, while there is not much difference in the frequency of “difficult” between academic and spoken English, “hard” is used as an adjective much more frequently in spoken English than in academic contexts.

This raises a question regarding the adjective “difficult,” which is often used in academic English and is also emphasized in English textbooks, particularly *New Horizon* (see Table 1). At the same time, there is a notable difference between the frequency data for “hard” and “difficult” compared to their usage in textbooks. For example, *New Horizon* contains 12 occurrences of “difficult” but only three of “hard.”

**Table 4***Frequency of “Difficult” by Genre in COCA*

Genre	Frequency	Per million
All	136,562	137.52
Blog	18,235	141.78
Web	18,252	146.89
TV/movies	7,714	60.23
Spoken	23,128	183.36
Fiction	8,338	70.47
Magazine	18,313	145.24
Newspaper	17,545	144.12
Academic	25,037	209.01

### Frequency of Collocations

There are other interesting aspects of COCA frequency data. For instance, the frequency data of “hard + noun” collocations (see Table 5) is partially reflected in the two textbooks examined: several occurrences of “hard work,” ranked second, are found in both textbooks.

**Table 5***“Hard” + Noun Collocation Frequency in COCA*

Rank	Collocate	Frequency
1	time	10,822
2	work	10,584
3	drive	3,673
4	times	2,899
5	way	2,610

Similarly, the top three most frequent verbs used in the “verb + hard” collocation (see Table 6) are all forms of the verb work. However, as mentioned earlier, the adverb “hard” was used most often in the textbooks with the verb practice, but the collocation “practice hard” was notably absent from the top 100 “verb + hard” collocations in COCA. This discrepancy suggests that the language in textbooks might not fully align with authentic usage. The emphasis on “practice hard” in Japanese textbooks may be influenced by cultural values that prioritize diligence and pedagogical reasons that stress repetitive practice as a learning strategy.

**Table 6***Verb + “Hard” Collocation Frequency in COCA*

Rank	Collocate	Frequency
1	work	5,939
2	worked	4,445
3	working	3,873
4	hit	1,195
5	trying	1,082

COCA data shows that “time” is the word most frequently used in the “difficult + noun” collocation (see Table 7) and both textbooks contain examples of the collocation “difficult time/times.” However, other collocations like “difficult problems” or “difficult challenge,” which appear in *Sunshine* and *New Horizon*, are not found among the top 10 collocations. This discrepancy again highlights the gap between textbook language and authentic usage.

**Table 7***“Difficult” + Noun Collocation Frequency in COCA*

Rank	Collocate	Frequency
1	time	3,190
2	task	1,082
3	situation	1,037
4	thing	1,015
5	times	1,007

### Conclusion

This study compared the use of “hard” and “difficult” in two Japanese junior high school English textbook series with data from dictionaries and the COCA corpus. It found that although “hard” is more frequent than “difficult” in most genres except academic English, the textbooks contained more examples of “difficult,” despite the otherwise predominant use in these textbooks of language from the spoken and fiction genres.

Some collocations such as “hard + noun” and “difficult + noun” align with COCA data, but others like “practice hard” appear frequently in textbooks yet are not prevalent in COCA. This suggests that textbooks only partially reflect authentic usage of English.

Teachers can leverage these findings for pedagogical purposes. For example, although “work hard” is

the most frequent “verb + hard” collocation, this does not appear in the two textbooks analyzed. Teachers, however, can introduce it as additional useful material. Further research on other synonyms as well could provide even more examples of authentic language that is helpful for learners of English.

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Appendix A

Meanings of “Hard” (Adjective and Adverb) From Four Major Dictionaries

Order	Dictionary							
	Merriam-Webster (adj)	Merriam-Webster (adv)	Oxford (adj)	Oxford (adv)	Collins (adj)	Collins (adv)	Cambridge (adj)	Cambridge (adv)
1	ruthless (a hard man)	intensively (working hard)	difficult (hard choice)	with effort (work hard)	tough (hard floor)	strenuously (work hard)	solid (hard surface)	using effort (work hard)
2	difficult (hard work)	bitterly (took the news of their pet’s death hard)	Tough (hard life)	with great force (don’t hit so hard!)	difficult (hard question)	intently (listen hard to hear him)	difficult (hard questions)	weather (it rains hard)
3	sturdy	strongly (the wind blew hard all day)	using effort (hard work)	carefully (think hard)	exhausting (hard work)	forcefully (kicked the bin very hard)	using effort (hard work)	
4	reasonable (hard evidence)	close (the groom stood hard by)	putting a lot of effort into an activity (he’s hard at work)	a lot (rain hard)	Forceful (hard push)	with difficulty (the hard won right)	severe (hard time)	

Order	Dictionary							
	Merriam-Webster (adj)	Merriam-Webster (adv)	Oxford (adj)	Oxford (adv)	Collins (adj)	Collins (adv)	Cambridge (adj)	Cambridge (adv)
5	tough (hard life)	harshly (treat hard)	done with a lot of force (hard kick)	sharp angle (turn hard right)	harsh (hard man)		harsh (be hard on someone)	
6	intense (years of hard wear)		solid/stiff (a hard mattress)		grim (hard times)		alcohol (a hard drink)	
7	strict (a hard disciplinarian)		without sympathy (hard stare)		definite (hard evidence)		water (hard water)	
8	solid (hard candies)		not afraid (you're really hard)		bitter (hard words)		clear (hard facts)	
9	stable (hard line between right and wrong)		definitely true (hard evidence)				weather (hard winter)	
10	sore (hard feelings)		weather (hard winter)					
11	stubborn		drink (hard liquor)					
12	historical (hard news)		water (a hard water area)					

*Note.* The order and examples extracted by the author are from Merriam-Webster Thesaurus, Oxford Advanced Learner's Dictionary, Collins English Thesaurus, and Cambridge Dictionary.

## Appendix B

### Meanings of "Difficult" From Four Major Dictionaries

Order	Dictionary			
	Merriam-Webster	Oxford	Collins	Cambridge
1	challenging (difficult questions)	Not easy, needing effort or skill (a difficult decision, question)	hard/ not easy to do (it is difficult to read the sign)	Needing skill or effort (a difficult problem, choice)
2	tough (difficult situation)	full of problems (a difficult situation)	problematical (difficult decision)	not friendly, easy to deal with (a very difficult woman)
3		Not easy to please, not helpful (a difficult child/boss)	troublesome (you are going to be difficult about this)	
4			tough (difficult times)	

*Note.* The order and examples extracted by the author are from Merriam-Webster Thesaurus, Oxford Advanced Learner's Dictionary, Collins English Thesaurus, and Cambridge Dictionary.

Appendix C

Examples of “Hard” (Adjective and Adverb) in *Sunshine* and *New Horizon*

Year of Junior High	English Textbook Series	
	<i>Sunshine</i>	<i>New Horizon</i>
1st	Ken, let’s practice hard and have fun at the show. (I, p.42)	You practice soccer very hard. (I, p.33)
	Is this really ink? It’s hard. (I, p.56)	I want to be a starter, so I practice hard. (I, 54).
	That’s hard work. (I, p.56)	
	I’m mashing sweet potatoes. It’s very hard. (I, p.99).	At first, I was really tired after practice, but I tried hard. (I. 111) Did you practice hard for the relay? (I, 121)
2nd	hard/easy (II, 56)	It was hard, but I really enjoyed it. (II, 44)
	P.E. was so hard today. (II, 60)	It is necessary to practice hard. (II, 49)
	I studied hard last night. (II, 66)	
	Practicing hard is important. (II, 115)	
3rd	But John’s skin was too hard for the needles to go through. (III, 46).	Because of that she was almost killed on a school bus, but many people worked hard to save her life. (III, 105)
	If you practice hard, you can be a starting player. (III, 60).	It’s hard for me to get up early. (III, 39)
	We have been working hard. (III, 92).	I’ve been practicing very hard. (III, 49)
	I was in the shogi club and practiced hard with other members every day. (III, 107).	I’ve been practicing very hard to improve my corner kicks. (III, 50)
		However, Hatta worked hard to include the local people in a positive way. (III, 118). After 10 years of hard work, they were rewarded with success. (III, 119)

Note. I (*Sunshine* or *New Horizon* 1), II (*Sunshine* or *New Horizon* 2), III (*Sunshine* or *New Horizon* 3)

Appendix D

Examples of “Difficult” in *Sunshine* and *New Horizon*

Year of Junior High	English Textbook Series	
	<i>Sunshine</i>	<i>New Horizon</i>
1st		It’s sometimes difficult, but she tries to do her best. (I, 89)
2nd	He tackles difficult problems through his music. (II, 72).	It was difficult, but I enjoyed it a lot. (II,40)
	Which is more difficult for you, math or science? (II, 130)	It will be difficult to finish it all. (II, 46)
		However, the weights were big and heavy, so these clocks were difficult to move. (II, 54). He was in a wheelchair from childhood, and often had a difficult time. (II, 78)

Year of Junior High	English Textbook Series	
	Sunshine	New Horizon
3rd	It's difficult for me to write kanji. (III, 8)	When you face a difficult challenge, how do you get over it? (III, 17).
	It is difficult to get up early. (III, 15)	I tried last night, but it's difficult to write haiku in English. (III, 21)
	Today AI has developed to a level that is difficult for humans to imagine. (III, 95).	It's a little bit difficult, but it's interesting. (III, 24)
	At first, it was difficult for us to sing the different parts. (III, 107)	It is difficult for endangered animals to survive in these conditions. (III, 37)
		It was difficult for them to survive. (III, 40).
		However, it is difficult to control radiation and handle nuclear waste safely all the time, (III, 107)
		Even during the difficult times of our shared history, there are people who dedicate their talent to helping others and doing good, (III, 119)

Note. I (Sunshine or New Horizon 1), II (Sunshine or New Horizon 2), III (Sunshine or New Horizon 3)

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