A Corpus-based study of the synonyms *cease*, *halt*, and *stop*

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ABSTRACT

This study aims to investigate the distribution across genres and the collocation of three synonymous verbs *cease, halt,* and *stop*. Data were drawn from the Corpus of Contemporary American English (COCA). The results from the distribution across genres shed light on the degree of formality of each verb. The verb *stop* appears to have a low degree of formality since it occurs most frequently in the TV and movie subtitles genre, an informal genre and occurs least frequently in formal contexts, i.e., the genre of academic texts. The verbs *cease* and *halt*, in contrast, appear to have a higher degree formality as they occur least frequently in informal contexts, i.e., the spoken genre. Furthermore, it was found that the three verbs share certain collocates and themes, confirming their status as synonyms. However, despite these similarities, there are collocates and themes that are not shared. Hence, the synonymous verbs can be differentiated from each other based on the degree of formality and the collocation. Due to the difference in usage, they cannot be substitutable in all contexts.

Keywords: synonyms, genre, collocation, corpus, COCA

Introduction

English synonyms are problematic for English as a Foreign Language (EFL) learners. In many instances, because a set of synonyms have similar core meanings, learners will make inappropriate or unnatural word choices without realizing that the synonyms are not identical in every respect and therefore, they are not interchangeable. According to Martin (1984), even when learners are at an advanced level, they still produce vocabulary errors in speaking and writing and some of these errors are caused by confusion relating to lexical items in the second language. Specifically, Martin mentioned that vocabulary teaching via glosses or synonyms contributes to inappropriate word choices among advanced learners.

The present study investigates three synonymous verbs *cease, halt,* and *stop* focusing on the collocation and distribution across genres. Knowledge of collocation would help learners in their spoken and written production. Collocations contribute to fluency development and native-like selection (Shin & Nation, 2007). In addition, by exploring the distribution across genres, the degree of formality of the target words can be revealed.

The verbs were chosen as the target synonyms because of frequency and importance for learners. The verbs *cease* and *stop* are included in the Longman Communication 3000 list, with *cease* being in the list of the top 3,000 most frequent words in written English and *stop* being in the list of the top 1,000 most frequent words in spoken English and the top 1,000 most frequent words in written English. In addition, *stop* is in the Oxford 3000 which is a list of the 3,000 most important words to learn in English while *cease* and *halt* are in the Oxford 5000, an expanded core word list to learn for advanced learners of English.

Definitions of the three nouns taken from Longman Dictionary of Contemporary English (online version), Oxford Advanced American Dictionary (online version), and Merriam-Webster Dictionary (online version) are shown below in Table 1:

Table 1

Definitions and Examples of cease, halt, and stop

	Longman Dictionary of Contemporary English	Oxford Advanced American Dictionary	Merriam-Webster Dictionary
cease	(formal) to stop doing something or stop happening	to stop happening or existing; to stop something from	to cause to come to an end especially gradually : no longer

	e.g. The company **ceased** production at their Norwich plant last year.	happening or existing	continue; to come to an end
		e.g. The company **ceased** trading in June.	e.g. They were forced to **cease** operations.
	e.g. The rain **ceased** and the sky cleared.	e.g. Welfare payments **cease** as soon as an individual starts a job.	e.g. The fighting gradually **ceased**.
halt	to prevent someone or something from continuing; to stop moving	to stop; to make someone or something stop	to bring to a stop; discontinue, terminate
	e.g. The government has failed to **halt** economic decline.	e.g. She walked toward him and then **halted**.	e.g. The strike **halted** subways and buses.
	e.g. The parade **halted** by a busy corner.	e.g. The police **were halting** traffic on the parade route.	e.g. The project **halted** for lack of funds.
stop	to not continue, or to make someone or something not continue	to no longer continue to do something; to end or finish; to make something end or finish	to cease activity or operation; to come to an end especially suddenly ; to arrest the progress or motion of
	e.g. This is where the path **stops**.		
	e.g. The referee **stopped** the fight.	e.g. Doctors **couldn't stop** the bleeding.	e.g. **stopped** the car
		e.g. The bus service **stops** at midnight.	e.g. The talking **stopped** when she entered the room.

From the definitions of *cease, halt,* and *stop* presented above, it can be seen that the three verbs are close in meaning and therefore, they can be considered near-synonyms. In dictionaries, although some information on their usage is provided, it is limited.

In terms of formality, *cease* is listed as formal in Longman Dictionary of Contemporary English. As for *halt* and *stop*, however, their degree of formality is not mentioned in the three dictionaries. With respect to collocations, collocates of *cease* appears in the Merriam-Webster dictionary, for example, with noun collocates, e.g., *order, fire*, and verb collocates, e.g., *amaze* being provided. For *halt* and *stop*, it appears that their collocations are

not provided in the three dictionaries. Information that is not available from dictionaries, e.g., collocations and degree of formality, can be found in language corpora, i.e., collections of natural texts that can be used to analyse how language is used (Reppen & Simpson-Vlach, 2010); hence, the motivation for conducting this corpus-based study.

The next section provides a review of the relevant literature.

Literature Review

Absolute Synonyms vs. Near-Synonyms

There are two major types of synonyms that are discussed in the literature, namely, absolute synonyms and near-synonyms. According to Edmunds and Hurst (2002), absolute synonyms are a pair of synonyms that can be substituted one for the other in all contexts without changes in meaning or communicative effect. Researchers have argued that absolute synonyms are very rare or even impossible. Near-synonyms, on the other hand, are similar to one another in meaning but they are not identical as they differ in certain aspects, e.g., register (Edmunds & Hurst, 2002). As a result, they are not interchangeable in all contexts. Examples of near-synonyms from Hirst (1995) are presented in below (as cited in Inkpen & Hirst, 2006).)

(1) *pissed* : *drunk* : *inebriated*
(2) *task* : *job*

According to Hirst, *pissed, drunk,* and *inebriated* differ in terms of stylistic and formality whereas *task* and *job* differ with respect to their collocational behaviour, specifically with the word *daunting*. In (1), *pissed* is informal while *inebriated* is formal. In (2), *daunting task* is a better collocation than *daunting job* (Inkpen & Hirst, 2006).

Distinguishing Synonyms

Near-synonyms can be distinguished using a number of criteria, e.g., formality, connotation, and collocation (Phoocharoensil, 2020a). As can be seen from the previous section, although a set of synonyms have the same core meaning, they can differ in terms of formality. As for synonyms with different connotations, examples from Phoocharoensil (2020a) are illustrated below.

(3) Lucy is quite **clever** and does well at school.
(Pearson Education, 2014)

(4)   He is as **cunning** as a fox.
       (Oxford University Press, 2014)

Both *clever* and *cunning* have to the same core meaning. Nevertheless, they differ in terms of connotation. The word *clever* has a positive connotation "quick at learning and understanding things", whereas *cunning* conveys the negative connotative meaning of getting something "in a clever way by using trickery" (Phoocharoensil, 2020a, p. 4).

        Another criterion for distinguishing synonyms is collocation. It is a concept relating to relations between words. Collocations refer words that frequently co-occur (Stubbs, 1995; Web & Nation, 2017). The Oxford Advanced American Dictionary defines collocations as "a combination of words in a language, that happens very often and more frequently than would happen by chance". When one part of the collocation is substituted for a near-synonym, the collocation can turn into "non-standard English" (Thornbury, 2002, p. 7). Phoocharoensil (2020b) provided an example of how a pair of synonyms, i.e., *wag* and *shake*, differ with respect to their collocates. While *wag* collocates strongly with the subject noun dog, *shake* appears to have a broader range of collocates, occurring with a number of nouns, e.g., hand, bottle, and body.

        In addition, collocates of words may be from a definable semantic set (Stubbs, 1995). Words may have collocates that have positive, neutral, or negative meaning. Stubbs found that the majority of collocates of *cause* have negative meaning, e.g., *accident, anxiety, chaos, delay, difficulty, harm, injury, pain, suffering, trouble,* and *uneasiness.* This phenomenon has been documented by many researchers such as Sinclair (1991), who found that the majority of collocates of *set in* were subjects with negative meaning such as *rot, decay, malaise,* and *despair* (as cited in Stubbs, 1995). In the next section, previous corpus-based studies on synonyms are reviewed.

Corpus-based Studies on Synonyms

        Previous studies have employed corpus data to investigate synonyms. Two corpora that have been widely used are the Corpus of Contemporary American English (COCA) and its British counterpart, the British National corpus (BNC). Corpus-based studies are useful since information in dictionaries may be lacking in certain aspects (Gu, 2017; Kruawong & Phoocharoensil, 2022; Li, 2019; Petcharat & Phoocharoensil, 2017). Specifically, there have been a number of corpus-based studies on, e.g., synonymous nouns, verbs, adverbs, and adjectives in English. These studies have explored and analysed synonyms to find similarities and differences in

terms of, i.e., frequency, collocations, colligation, degree of formality, Semantic preference, and Semantic prosody. Studies below illustrate the similarities and differences between synonyms.

Kruawong and Phoocharoensil (2022) examined three synonyms, *teach*, *educate* and *instruct,* using data gathered from the Longman Dictionary of Contemporary English (2021) and COCA. The study revealed similarities and differences between the three synonyms with respect to the collocation patterns and distribution across genres. It was found that *teach* was used most frequently across all eight genres among the three synonyms, with its frequency being almost seven times higher than that of *educate* and was close to thirteen times higher than that of *instruct*. All three synonymous verbs are similar in that they had the highest frequency of occurrence in the academic genre and had low frequency in spoken, TV/movie, and fiction genres, indicating that the three synonyms appear to be preferred in formal contexts. In addition, although the synonyms share noun collocates, namely, *teacher* and *student*, there are collocates that they do not share, suggesting that the synonyms differ in terms of the semantic properties.

Phoocharoensil and Kanokpermpoon (2021) carried out a corpus-based study of two synonymous verbs, *rise* and *increase*, with the aim of investigating their genres and collocations. Data analysed were taken from COCA. It was found that of the two, *increase* occurred more frequently. The word *increase* was used most frequently in academic texts, a formal genre; as for *rise*, it was used most frequently in magazines and academic texts. The findings suggest that both words are formal, with *increase* being slightly more formal. With respect to collocations, it was discovered the synonyms share a number of adverb collocates and noun collocates. However, unlike *increase*, *rise* has a noun+verb collocation that describes an upward direction of natural or inanimate entity.

The study by Jarunwaraphan and Mallikamas (2020) examined two synonyms, *chance* and *opportunity,* using data from online dictionaries, e.g., Longman Dictionary of Contemporary English and the Cambridge Dictionary, and COCA. It was found that out of five genres, *opportunity* was used with highest frequency in academic texts and with the lowest frequency in the fiction genre. As for *chance*, it occurred most frequently in the spoken genre and least frequently in academic texts. It was argued that *opportunity* was used more in formal contexts than *chance* and this was also supported by *opportunity* having a number of collocates in the academic word list. Furthermore, it was reported that *opportunity* had more semantic preferences than *chance*. The findings indicated that the synonyms differed in terms of the degree of formality, collocation, and semantic prosody.

Li (2019) explored two synonyms, *preserve* and *conserve,* in terms of their frequency, colligation, collocation, semantic preference and semantic

prosody. The analysis was based on data drawn from the BNC. The findings revealed some similarities and differences. It was reported that *preserve* appears much more frequently than *conserve,* with the frequency of *preserve* being over six times higher than that of *conserve. Preserve* is used most frequently in the academic genre and least frequently in the spoken genre, while *conserve* is used most frequently in miscellaneous genres and least frequently in the spoken genre. Furthermore, it was found that colligation patterns of *preserve* are more flexible and richer than that of *conserve.* In addition, by examining the collocates, the study revealed that the semantic preference of *preserve* is something that is abstract and important, whereas the semantic preference of *conserve* is something that is related to natural resources, the environment, and ecology. What is similar between these two synonyms was the semantic prosody, that is, the collocates of both *preserve* and *conserve* tend to have more positive or neutral meaning.

Petcharat and Phoocharoensil (2017) analysed three synonyms, *appropriate, proper* and *suitable.* Data were drawn from COCA and three dictionaries, namely, Longman Dictionary of Contemporary English, Longman Advanced American Dictionary, and Macmillan Collocations Dictionary. In terms of the degree of formality, Petcharat and Phoocharoensil found that *appropriate* was more likely to be used in formal contexts than *proper* and *suitable.* In addition, with respect to collocation, it was discovered that three synonyms shared certain noun and adverb collocates. However, for the most part, the three synonyms co-occur with different collocates. Furthermore, the three synonyms share eight grammatical structures. Nevertheless, there are grammatical structures that are shared by only two of the synonyms.

A study by Gu (2017) investigated two synonyms, *obtain* and *gain*, in terms of genre, colligation, collocation, and semantic prosody. They study used data from Sketch Engine, BNC, and Just the Word. What was similar between the two synonyms was that they share similar frequency in the pattern of 'v+n' and 'v+adv'. However, they differ in the 'n+v' and 'v+prep+object' patterns. Furthermore, Gu discovered that *gain* had positive semantic prosody, collocating with nouns that have positive denotation, and it was used more with abstract nouns. As for *obtain,* it had mixed or neutral semantic prosody and concrete nouns were used more with *obtain.*

Previous studies have shown that although synonyms have similar meanings, they are not interchangeable. Synonyms can be differentiated based on criteria such as frequency, collocations, colligation, degree of formality, Semantic preference, and Semantic prosody. Information concerning synonyms from these corpus-based studies is beneficial since it can be added to what is missing in dictionaries. At present, there do not

appear to be corpus-based studies investigating synonyms *cease, halt,* and *stop* in terms of distribution across genres and collocations.

The present study, therefore, aims to investigate the three synonymous verbs; the research questions are presented below:

1. How are the synonymous verbs *cease, halt* and *stop* distributed across different genres?

2. What are the common collocations of the synonymous verbs *cease, halt* and *stop*?

Methodology

Data were collected from the Corpus of Contemporary American English (COCA), a large corpus of American English. It was updated in 2020 and now it contains texts collected from eight genres, that is, spoken, fiction, popular magazines, newspapers, academic texts, TV and Movies subtitles, blogs and other web pages. One difference between the genres is the degree of formality, ranging from very informal genres, e.g., the TV and Movie subtitles genre, and the spoken genre, to more formal genres, e.g., academic texts. There are genres, e.g., magazines and newspapers, that are in-between since they consist of formal texts and less formal texts. The newspapers genre, for example, consists of different sections from newspapers, such as international news, national news, local news, opinion, sports, financial, life and editorial.

COCA was selected for the present study because of the following reasons. First of all, it was chosen based on its size, consisting of more than one billion words of text. Secondly, the corpus is updated on a yearly basis, approximately 25 million words per year from 1990-2019, with similar amounts added to each genre. If the goal is to investigate language patterns and lexical items, for example, the size of the corpus has to be substantial (Reppen & Simpson-Vlach, 2010). A corpus with substantial size can provide reliable information about a word, e.g., the different meanings a word might have. However, if a corpus has one million words, for example, reliable information for less frequently used words cannot be provided. Due to the reasons mentioned, data collection and linguistic analysis for the present study can be achieved with COCA.

The present study investigates collocations and distribution across genres of the synonymous verbs, namely, *cease, halt,* and *stop*. To address the first research question, data, i.e., frequencies and distribution patterns, were collected in the eight genres. To answer the second research question, frequent collocates of *cease, halt,* and *stop* were examined. Specifically, adverb and noun collocates were analysed since target synonyms were verbs (Phoocharoensil & Kanokpermpoon, 2021). The collocates were chosen on

the basis of the collocation strength measured by corpus-based methods (Wongkhan & Thienthong, 2020, as cited in Phoocharoensil, 2020b). To determine the collocational strength, i.e., whether words that co-occur have a strong association in terms of collocation, the Mutual Information (MI) score was used. Only an MI score of 3 or higher is considered to be important (Hunston, 2002, as cited in Smyth, 2016). According to Cheng (2012), an MI score of 3 or higher is the significance value for collocation association (as cited in Phoocharoensil, 2020b). However, the MI score has its limitations since it can give a misleading result by attaching importance to words with rare occurrence (Baker, 2006, as cited in Smyth, 2016). To avoid misleading results, low frequency words, that is, those with frequency of 5 or below, should be removed (Neighbor or Collocate Statistics, n.d.). Schmitt (2010) suggested that the MI score ought to be used with a minimum frequency threshold (as cited in Phoocharoensil, 2020b). Evert (2007) suggested a minimal frequency threshold for cooccurrences of 3 or of 5. For the present study, the noun and adverb collocates selected were the ones with the frequency of 6 or higher and MI score 3 and higher.

The synonymous verbs *cease, halt,* and *stop* can be both transitive and intransitive. When the verb is transitive, nouns that do not receive the action of the verb are excluded from the study. In addition, when searching in COCA, since the study focuses on all forms of the verbs, a lemma search was conducted. When searching for collocates of the verbs, the search was limited to the span of 4 words. There is no consensus on the span size; however, according to Sinclair (1991), there is not much collocational information that can be found when the span is more than 4 words (as cited in Stubbs, 1995).

Results and Discussion

To provide answers to the two research questions, the frequency and distribution of the synonyms across genres are presented first and this is followed by noun and adverb collocates of the synonyms. The points that can be drawn from the results are discussed.

Frequency and Distribution across Genres

It is shown in Table 2 that of all the three synonyms, *stop* occurs with the highest frequency, whereas *halt* occurs with the lowest frequency overall. The verb *stop* appears to have a low degree of formality as it occurs most frequently (102,324 tokens or 798.94 w/m)) in the TV and movie subtitles genre, an informal genre and occurs least frequently (10,008 tokens or 83 w/m) in the genre of academic texts, a genre with high level of formality.

Table 2

Distribution of cease, halt, and stop across eight genres according to frequency

cease			halt			stop		
Genre	Frequency	Per Million	Genre	Frequency	Per Million	Genre	Frequency	Per Million
1.webpages	2,791	22.46	1.newspaper	1,905	15.65	1.TV and movie subtitles	102,324	798.94
2.fiction	2,443	20.65	2.fiction	1,696	14.33			
3.academic texts	2,231	18.62	3.magazine	1,511	11.98	2.fiction	74,090	626.17
			4.academic texts	937	7.82	3.blogs	41,298	321.10
4.blogs	2,016	15.67				4.webpages	38,902	313.09
5.magazine	1,571	12.46	5.webpages	916	7.37	5.spoken	38,725	307.01
6.TV and movie subtitles	1,163	9.08	6.TV and movie subtitles	843	6.58	6.newspaper	30,069	246.99
						7.magazine	31,089	246.56
7.newspaper	1,054	8.66	7.blogs	722	5.61	8.academic texts	10,008	83.55
8.spoken	717	5.68	8.spoken	610	4.84			
All	13,986	14.08	**All**	9,140	9.20	**All**	366,505	369.08

The verbs *cease and halt*, in contrast to *stop*, appear to have a higher degree of formality. Both *cease* and *halt* occur the least (717 tokens or 5.68 w/m and 610 tokens or 4.84 w/m respectively) in the spoken genre, an informal genre. The verb *cease* appears with the highest frequency (2,791 tokens or 22.46 w/m) in the genre of webpages and in this genre, it was found that *cease* occurs most frequently in the web genres of fiction and legal. The verb *cease* occurring least frequently in spoken genre and most frequently in the web genres of fiction and legal appears to suggest that *cease* has a high level of formality. As for the verb *halt*, it occurs most frequently (1,905 tokens or 15.65 w/m) in the newspaper genre and in this genre, *halt* occurs with the highest frequency in the international news section. The verb *halt* occurring least frequently in spoken genre and most frequently in the newspaper genre appears to suggest that *halt* has a high degree of formality.

Common Collocations

This section presents noun and adverb collocates that frequently co-occur with the synonymous verbs *cease, halt,* and *stop*. The selected nouns and adverbs have the MI value of 3 or higher and their frequency is higher than 5. In addition, the semantic preference of noun and adverb collocates are

presented. For noun collocates, information concerning their placement is also included since *cease, halt,* and *stop* can be transitive or intransitive verbs.

Noun Collocates

Table 3

Noun collocates of cease, halt, and stop in COCA

Rank	cease			halt			stop		
	Noun collocate	Frequency	MI Value	Noun collocate	Frequency	MI Value	Noun Collocate	Frequency	MI Value
1	fire	819	5.65	production	150	4.45	crying	1,205	5.18
2	operation	237	4.46	construction	147	5.22	fighting	868	3.88
3	activity	156	3.09	progress	90	4.44	breathing	765	4.42
4	production	108	3.36	advance	85	5.10	drinking	646	3.57
5	publication	98	4.65	operation	81	3.52	eating	577	3.60
6	hostility	53	5.77	spread	77	6.19	smoking	518	4.00
7	firing	52	5.98	trading	64	5.64	spread	392	3.22
8	rain	49	3.12	sales	60	3.51	madness	246	3.29
9	fighting	40	4.15	expansion	58	4.91	ringing	193	4.35
10	wonder	38	3.42	traffic	56	3.89	firing	175	3.02
11	breathing	24	4.14	decline	53	4.82	listening	143	3.08
12	crying	14	3.47	flow	52	4.17	counting	129	3.25
13	enrichment	13	4.91	execution	47	5.43	recount	119	3.54
14	hatred	12	3.05	progression	43	6.43	caring	107	3.65
15	bombardment	11	5.61	train	41	3.45	motorist	105	3.30
16	convection	11	6.23	momentum	41	5.26	bloodshed	100	3.79
17	questioning	9	4.07	flight	38	3.01	whining	66	4.31
18	gunfire	8	4.05	enrichment	38	7.07	typing	61	3.04
19	mining	7	3.19	proceedings	35	5.24	shelling	50	3.96
20	oppression	7	3.26	immigration	34	3.54	screaming	45	3.35
21	persecution	7	3.63	slide	34	5.00	teasing	39	3.48
22	ringing	6	4.05	destruction	30	3.88	haemorrhaging	39	5.61
23	menstruation	6	6.25	proliferation	29	5.97	drumming	36	3.15
24				streak	28	4.97	sweating	31	3.25
25				rise	27	3.14	begging	29	3.04
26				deportation	27	6.59	swearing	27	3.21
27				foreclosure	26	5.83	coughing	22	3.49
28				bombing	25	4.32	itching	14	3.60
29				fighting	22	3.90			
30				recount	22	6.44			

From Table 3, only the top-30 noun collocates are presented; however, based on the frequency and MI score criteria, there are only 23 noun collocates of *cease* and 28 noun collates of *stop*. It can be seen from the table

that the three synonymous verbs share certain noun collocates. The verbs *cease* and *halt* share the following collocates, i.e., *operation* and *production*. As for the verbs *cease* and *stop,* they share the following collocates, i.e., *firing, breathing, crying,* and *ringing*. The verbs *halt* and *stop* share the following collocates, i.e., *fighting* and *recount*.

Despite having common noun collocates, the synonymous verbs can be distinguished to an extent by the different nouns each verb co-occurs with.

In the next part, the semantic preference of noun collocates of the three verbs is presented. The noun collocates are grouped according to how they are similar in meaning. Semantic preference refers to the limiting of lexical items co-occurrences to those that share a semantic feature (Sinclair, 2004, as cited in Kruawong & Phoocharoensil, 2022). According to Stubbs (2001, p. 65), semantic preference is the relation between "a lemma or word form and a set of semantically related words" (as cited in Begagić, 2013).

Table 4

Semantic preference of noun collocates of cease

Semantic Preference	Subject Nouns (active)	Object Nouns (active)	Subject Nouns (active), Object Nouns (active)
1.WAR/CONFLICT/DAMAGE	gunfire	fire	bombardment, fighting, firing, hostility, oppression, persecution
2. INDUSTRY	-	-	activity, mining, operation, production, publication
3. EMOTION/ACTION	hatred, wonder	-	breathing, crying, questioning, ringing
4. MISCELLANEOUS	convection, menstruation, rain	enrichment	-

As shown in Table 4, four major themes appeared from the analysis of semantic preference of *cease*. Most noun collocates of *cease* can be subject and object nouns in the active voice. The noun collocates under the theme

WAR/CONFLICT/DAMAGE account for the majority of the collocates. Noun collocates under this theme are such as *gunfire, fire, bombardment, fighting, firing,* and *hostility*, as exemplified in (5). The theme EMOTION/ACTION has the second highest number of collocates and, it includes nouns conveying emotion, i.e., hatred, wonder and conveying action, e.g., breathing, crying. The theme INDUSTRY, ranked third in terms of the number of collocates, includes nouns that are related to different industries.

    (5) In addition, a call has been made for opponents to ***cease fighting*** and work together to rebuild the nation.

Table 5

Semantic preference of noun collocates of halt

Semantic Preference	Object Nouns (active)	Subject Nouns (active), Object Nouns (active)	Object Nouns (active), Subject Nouns (passive)	Subject Nouns (active), Object Nouns (active), Subject Nouns (passive)
1.WAR/CONFLICT/ DAMAGE	destruction	-	bombing	fighting
2. INDUSTRY	-	-	foreclosure	construction, operation, production, sales, trading
3. TRANSPORTATION	-	-	flight	traffic, train
4.MOVEMENT/CHANGE	flow, proliferation, rise, spread	slide	enrichment, expansion, progression	advance, decline, momentum, progress
5.LAW	-	-	deportation, immigration, proceedings, recount	execution
6. MISCELLANEOUS	-	-	-	streak

    Table 5 illustrates that six major themes can be found for the noun collocates of *halt*. Most of the noun collocates for *halt* can be subject nouns in the active voice, object nouns in the active voice, and subject nouns in the passive voice. The noun collocates under the theme MOVEMENT/CHANGE account for the majority of the collocates. The

nouns under this theme include nouns relating to change by increasing e.g., *rise, proliferation, enrichment*, change by decreasing e.g., *slide, decline* and movement in certain direction e.g., *flow, spread,* as exemplified in (6). The themes INDUSTRY and LAW have the second and third highest number of noun collocates respectively. Noun collocates under LAW are nouns that are used in legal settings, i.e., *execution*, *deportation, immigration, proceedings,* and *recount,* as exemplified in (7). The two themes, ranked fourth in terms of the number of collocates, are WAR/CONFLICT/ DAMAGE and TRANSPORTATION. Noun collocates under TRANSPORTATION are *flight, traffic* and *train,* as exemplified in (8).

(6) The stimulus passed in February was way too small to **halt** the economic **decline**.
(7) Later Friday, Michigan Republicans asked the U.S. Supreme Court to **halt** the entire **proceeding** until the high court rules on redistricting suits from North Carolina and Maryland.
(8) That caused airport officials to **halt** all **flights** out of one of the airport's three terminals.

Table 6

Semantic preference of noun collocates of stop

Semantic Preference	Object Nouns (active)	Subject Nouns (active), Object Nouns (active)	Subject Nouns (active), Object Nouns (active), Subject Nouns (passive)
1.WAR/CONFLICT/ DAMAGE	-	firing, shelling	bloodshed, fighting
2. MOVEMENT/ CHANGE	-	haemorrhaging	spread
3.EMOTION/ ACTION	caring	begging, breathing, coughing, counting, drinking, drumming, eating, itching, listening, ringing, screaming, smoking, swearing sweating, teasing, typing, whining	crying
4.MISCELLANEOUS	-	madness	motorist, recount

Table 6 shows the four main themes that emerged from the analysis of noun collocates of *stop*. Most of the noun collocates of *stop* can be subject and object nouns in the active voice. Noun collocates under EMOTION/ACTION account for the majority of the collocates. Noun collocates under this theme are such as *caring, begging, breathing, coughing, counting, drinking* and *crying*, as exemplified in (9). The theme MOVEMENT/CHANGE has the lowest number of noun collocates. It is worth noting that most of the noun collocates of *stop* is the form with -ing ending.

(9) As he progressed, the **crying stopped.**

The analysis of noun collocates of *cease, halt,* and *stop* appears to reveal the similarities and differences in usage of each verb. For *cease*, noun collocates under the theme WAR/CONFLICT/DAMAGE account for the majority of the collocates. As for *halt* and *stop*, the majority of noun collocates are under the themes MOVEMENT/CHANGE and EMOTION/ACTION respectively.

One theme that *cease, halt,* and *stop* all share is the theme of WAR/CONFLICT/ DAMAGE. The noun collocates in this theme demonstrate a negative sense. The theme of INDUSTRY is shared by *cease* and *halt*, whereas the theme of EMOTION/ACTION is shared by *cease* and *stop*. The theme of MOVEMENT/CHANGE is shared by *halt* and *stop*; however, it is worth noting that there is a noun collocate of *cease* that falls under this theme, i.e., *enrichment*. Noun collocates of *halt* can be grouped into more themes than that of *cease* and *stop*. The themes of TRANSPORTATION and LAW can be found mainly with *halt*. Nevertheless, it is worth mentioning that there are noun collocates of *stop* that can be categorized under TRANSPORTATION and LAW, i.e., *motorist* and *recount* respectively. Data from COCA reveal that *halt* occurs most frequently in the newspaper genre and the two sections in this genre with the highest number of occurrences of *halt* are the International News and National News sections, which may include Court news and events. In addition, it is worth noting that in the academic text genre, *halt* occurs most frequently in the History and Law/Political Science sections. Hence, this could possibly contribute to having a number of noun collocates under the theme of LAW.

Adverb Collocates

From Table 7, only the top-10 adverb collocates are presented; however, based on the frequency and MI score criteria, there are only

Table 7

Adverb collocates of cease, halt, and stop in COCA

Rank	*cease*			*halt*			*stop*		
	Adv. collocate	Frequency	MI Value	Adv. collocate	Frequency	MI Value	Adv. Collocate	Frequency	MI Value
1	immediately	152	4.08	temporarily	128	7.47	abruptly	782	5.06
2	abruptly	73	6.36	abruptly	89	7.25	altogether	634	3.84
3	altogether	71	5.39	immediately	62	3.40	momentarily	93	3.10
4	suddenly	70	3.00	suddenly	53	3.21			
5	virtually	38	3.49	effectively	32	3.79			
6	gradually	29	3.77	briefly	22	3.95			
7	temporarily	18	4.18	virtually	18	3.02			
8	voluntarily	7	3.80	altogether	18	4.03			
9	momentarily	6	4.08	permanently	11	4.00			
10				momentarily	8	4.89			

9 adverb collocates of *cease* and 3 adverb collates of *stop*. It can be seen from the table that the three synonymous verbs share certain adverb collocates. All three synonyms share the following collocates, i.e., *abruptly, altogether,* and *momentarily*. It can be observed that the 3 aforementioned collocates are the only adverb collocates of *stop*. In addition, the verbs *cease* and *halt* share the following collocates, i.e., *immediately, suddenly, virtually, temporarily* and *momentarily*. Despite having a number of common adverb collocates, there are collocates that *cease* and *halt* do not share, hence, they can be distinguished to an extent.

In the next part, the semantic preference of adverb collocates of the three synonymous verbs is presented. In the same approach as noun collocates, adverb collocates are grouped according to how they are similar in meaning.

Table 8

Semantic preference of adverb collocates of cease

Semantic Preference	Adverb Collocates
1.SPEED	abruptly, gradually, immediately, suddenly
2. DEGREE	altogether, virtually
3. DURATION	momentarily, temporarily
4. MISCELLANEOUS	voluntarily

As shown in Table 8, four major themes appeared from the analysis of semantic preference of *cease*. The adverb collocates under the theme of

SPEED account for the majority of the collocates. The collocates under this theme include adverbs connoting high speed, i.e., *abruptly, immediately*, and *suddenly* and an adverb connoting low speed, i.e., *gradually*, as exemplified in (10). The theme MISCELLANEOUS has the lowest number of collocates.

(10) What background noise there had been in the room **abruptly ceased**.

Table 9

Semantic preference of adverb collocates of halt

Semantic Preference	Adverb Collocates
1.SPEED	abruptly, immediately, suddenly
2. DEGREE	altogether, virtually
3. DURATION	briefly, momentarily, permanently, temporarily
4. MISCELLANEOUS	effectively

As illustrated in Table 9, there are four major themes that can be found for the adverb collocates of *halt*. The adverb collocates under the theme DURATION account for the majority of the collocates. The adverbs under this theme include adverbs connoting a short time, i.e., *briefly, momentarily,* and *temporarily* and an adverb which relates to a long and indefinite period, i.e., *permanently*, as exemplified (11). The themes SPEED and DEGREE have the second and third highest number of adverb collocates respectively, while the theme of MISCELLANEOUS is ranked fourth in terms of the number of collocates.

(11)Traffic was **temporarily halted** in both directions of the 405 Freeway for safety reasons.

Table 10

Semantic preference of adverb collocates of stop

Semantic Preference	Adverb Collocates
1.SPEED	abruptly
2. DEGREE	altogether
3. DURATION	momentarily

Table 10 illustrates that there are three major themes found for the adverb collocates of *stop*. Each theme has equal number of collocates, which is one each.

The analysis of adverb collocates of *cease, halt,* and *stop* appears to reveal the similarities and differences in usage of each verb. For *cease*, adverb collocates under the theme SPEED account for the majority of the collocates, while for *halt*, the majority of adverb collocates can be categorized under the theme of DURATION. As for *stop,* each theme has one collocate.

The themes that *cease, halt,* and *stop* share are the themes SPEED, DEGREE, and DURATION. Both *cease* and *halt* have collocates under the theme MISCELLANEOUS. It is worth noting that under the theme of SPEED, an adverb connoting low speed can be found with *cease* only. Moreover, under the theme DURATION, an adverb describing a long and indefinite period can be found with *halt* only. Similar to noun collocates, the results of adverb collocates help to shed light on how each synonymous verb differs in terms of usage.

The findings of the present study are in agreement with previous studies on synonyms. In the present study, it is found that the synonymous verbs *cease, halt,* and *stop* can be distinguished based on the degree of formality. This is consistent with previous studies such as Petcharat and Phoocharoensil (2017), Jarunwaraphan and Mallikamas (2020), and Phoocharoensil and Kanokpermpoon (2021). Furthermore, it is found in the present study that the synonymous verbs illustrate collocational difference and this supports previous studies such as Gu (2017), Petcharat and Phoocharoensil (2017), Li (2019), Phoocharoensil (2021), Phoocharoensil and Kanokpermpoon (2021), Jarunwaraphan and Mallikamas (2020), and Kruawong and Phoocharoensil (2022).

Conclusion

The present study investigates the distribution across genres and collocation of the synonymous verbs *cease, halt,* and *stop.* Data were drawn from COCA. It was found that the three synonymous verbs are similar and different in terms of degree of formality and collocation.

The findings from the distribution across genres reveal that *stop* can be differentiated from *cease* and *halt* in terms of the degree of formality. From the data, it appears that *stop* have a low level of formality since it occurs most frequently in the TV and movie subtitles genre, which is an informal genre, and occurs with the least frequency in the genre of academic texts, which a genre with high degree of formality. As for *cease* and *halt,* they, on the other hand, appear to have a higher degree of formality. Both *cease* and *halt* occur least frequently in the spoken genre, an informal genre. In addition, both verbs occur most frequently in a genre that suggests a high level of formality. The verb *cease* occurs most frequently in the genre of webpages; specifically, the highest frequency of occurrence is in the web genres of fiction and legal.

The verb *halt* occurs most frequently in the newspaper genre; specifically, the highest frequency of occurrence is in the international news section.

From the analysis of noun and adverb collocates, it is found that the *cease, halt,* and *stop* share certain collocates and semantic preferences, confirming that they are synonyms of one another. However, despite similarities, there are collocates and semantic preferences that they do not share. Noun collocates of *halt* can be grouped into more themes than that of *cease* and *stop,* with the themes of TRANSPORTATION and LAW being found mainly with *halt*. In addition, each verb differs with respect to the nouns it mainly co-occurs with. For *cease*, the majority of noun collocates can be categorized under the theme WAR/CONFLICT/DAMAGE. As for *halt* and *stop*, the majority of noun collocates can be categorized under the themes MOVEMENT/CHANGE and EMOTION/ACTION respectively. Moreover, in terms of adverb collocates, each verb differs with respect to the adverbs it mainly co-occurs with. The majority of adverbs of *cease* can be grouped under the theme of SPEED, whereas that of *halt* can be grouped under the theme of DURATION. As for *stop*, the number of collocates for each theme is the same. Under the theme of SPEED, an adverb collocate connoting low speed can be found with *cease* only, while under the theme of DURATION, an adverb connoting a long and indefinite period can be found with *halt* only. To conclude, the differences in the degree of formality and collocation help to distinguish the three synonymous verbs *cease, halt,* and *stop* from each other. Because of the differences, they are not interchangeable in all contexts.

The present study has certain limitations. Since the study uses the total frequency and the MI score as criteria, the noun and adverb collocates selected for this study can possibly be different if other statistical tests are used to measure the strength of collocational association instead e.g. T-score, Z-score, chi-square, and log-likelihood (Phoocharoensil, 2021). In addition, the data from this study were taken from COCA; it is possible that results might be different if data were from other corpora. Finally, the study focuses on the degree of formality and collocation. For future research, other aspects, for example, colligation, can be considered.

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