



**A CORPUS-BASED STUDY OF THE SYNONYMS
FLAMMABLE, INFLAMMABLE, COMBUSTIBLE, AND
INCENDIARY**

BY

MR. POLWIWAT ASKRAPOND

**AN INDEPENDENT PAPER SUBMITTED IN PARTIAL
FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS IN
ENGLISH LANGUAGE TEACHING
LANGUAGE INSTITUTE
THAMMASAT UNIVERSITY
ACADEMIC YEAR 2020
COPYRIGHT OF THAMMASAT UNIVERSITY**

**A CORPUS-BASED STUDY OF THE SYNONYMS
FLAMMABLE, INFLAMMABLE, COMBUSTIBLE, AND
INCENDIARY**

BY

MR. POLWIWAT ASKRAPOND

**AN INDEPENDENT PAPER SUBMITTED IN PARTIAL
FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS IN
ENGLISH LANGUAGE TEACHING
LANGUAGE INSTITUTE
THAMMASAT UNIVERSITY
ACADEMIC YEAR 2020
COPYRIGHT OF THAMMASAT UNIVERSITY**

THAMMASAT UNIVERSITY
LANGUAGE INSTITUTE

INDEPENDENT STUDY PAPER

BY

MR. POLWIWAT ASKRAPOND

ENTITLED

A CORPUS-BASED STUDY OF THE SYNONYMS FLAMMABLE,
INFLAMMABLE, COMBUSTIBLE, AND INCENDIARY

was approved as partial fulfillment of the requirements for
the degree of Master of Arts in English Language Teaching

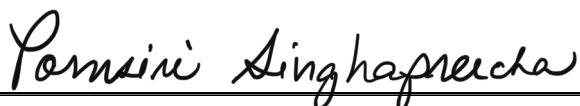
on May 27, 2021

Chair



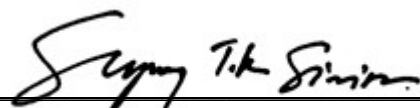
(Assistant Professor Virasuda Sribayak, Ph.D.)

Member and Advisor



(Associate Professor Pornsiri Singhapreecha, Ph.D.)

Director



(Associate Professor Supong Tangkiengsirisin, Ph.D.)

Independent Study Paper Title	A CORPUS-BASED STUDY OF THE SYNONYMS FLAMMABLE, INFLAMMABLE INFLAMMABLE, COMBUSTIBLE AND INCENDIARY
Author	Mr. Polwiwat Askrapond
Degree	Master of Arts
Major Field/Faculty/University	English language teaching Language Institute Thammasat University
Independent Study Paper Advisor	Associate Professor Pornsiri Singhapreecha Ph.D.
Academic year	2020

ABSTRACT

The objective of this study was to investigate the near synonymy of the four English adjectives *flammable*, *inflammable*, *combustible*, and *incendiary*, emphasizing the collocations, formality/genre, grammatical patterns, connotations, and dialects of each adjective. The sources of data in this study included the (online) Longman Dictionary of Contemporary English (Online access), the (online) Oxford Advanced Learner's Dictionary, the Corpus of Contemporary American English (COCA), and the British National Corpus (BNC). The results suggest that they are near-synonyms (Lyon, 1995). In addition, the findings revealed that the four adjectives share a similar core meaning which is 'able to burn easily', but have many differences in terms of collocations, formality/genre, grammatical patterns, connotations, and dialects. Although the adjectives differ widely in their collocations, there are also a number of nouns that can be collocated with two or more of the synonyms, such as the nouns 'material',

'liquid', and 'gas', which collocate with all four of the adjectives. In terms of formality and genre, the synonyms are quite similar in this aspect. In terms of dialectal differences, in COCA, the corpus that was used in this research to represent American English, *incendiary* and *flammable* are used more compared to other words (1,278 and 1,030 hits respectively), while *combustible* is less frequent (659 hits), and *inflammable* is barely used at all (66 hits). Interestingly, BNC, the corpus that represents British

English in this research, shows that all four adjectives are close to each other in terms of frequency (75 for *flammable*, 53 for *inflammable*, 45 for *combustible*, and 85 for *incendiary*). With respect to the grammatical patterns of these adjectives, although many patterns are shared, only a handful are unique to an adjective; however, using intuition, the researcher's opinion is that most of the patterns seen in the corpus can be safely used interchangeably. Lastly, concerning connotations, the findings show that almost all of the adjectives appear in sentences with negative or neutral tones, and some of the adjectives can be used to describe a characteristic of speech or piece of writing that is 'provocative' in nature.

Keywords: Corpus linguistics, English, Collocations, Dictionaries

ACKNOWLEDGEMENTS

I would like to express my deepest gratitude to Associate Professor Pornsiri Singhapreecha, Ph.D., who was my advisor from the start, for her guidance throughout my independent study; it would not have been possible for this study to be completed without her help. I would also like to extend my sincere thanks to Assistant Professor Virasuda Sribayak Ph.D. for her comments during the independent study defense.

I am also grateful for all my friends and professors in the ELT faculty for their help, support, and most importantly, friendship, through the highs and the lows of my time here; every class has been a delight and an opportunity to learn and improve myself as an English language teacher.

Lastly, I would like to thank everyone at the LITU office, for without them, it would be nigh impossible to prepare or arrange the materials and schedule classes at LITU; to me, their help and contribution to the faculty cannot be overstated.

It would not have been possible for me to accomplish my master's degree without any of the people I mentioned, and for that they have my sincerest gratitude.

Mr. Polwiwat Askrapond

TABLE OF CONTENTS

	Page
ABSTRACT	(1)
ACKNOWLEDGEMENTS	(3)
LIST OF TABLES	(6)
LIST OF FIGURES	(7)
CHAPTER 1 INTRODUCTION	1
1.1 Background of the study	1
1.2 Research questions	2
1.3 Objectives of the study	2
1.4 Statement of the problems	3
1.5 Definitions of terms	3
1.6 Scope of the study	3
1.7 Significance of the study	4
1.8 Limitation of the study	4
1.9 Organization of the study	4
CHAPTER 2 REVIEW OF LITERATURE	6
2.1 Corpus linguistics	6
2.2 Synonym	7
2.2.1 Near-synonyms	7
2.2.2 Absolute-synonyms	8
2.3 Ways of differentiating near synonyms	8
2.3.1 Collocation	9
2.3.2 Style/registry/formality	9

	(5)
2.3.3 Connotation	10
2.3.4 Grammatical pattern	10
2.3.5 Dialect	11
2.4 Previous studies	12
CHAPTER 3 METHODOLOGY	14
3.1 Data collection on core meaning	14
3.2 Data collection on 1 st 2 nd and 3 rd research questions	14
3.3 Data collection on 4 th and 5 th research questions	15
CHAPTER 4 RESULTS	16
4.1 Meaning	16
4.2 Shared noun collocations	17
4.3 Unique noun collocation	18
4.4 Dialects	21
4.5 Formality/genres	23
4.6 grammatical patterns	26
4.7 Connotations	30
CHAPTER 5 DISCUSSION, CONCLUSION, AND RECCOMENDATION	32
5.1 Discussion	32
5.2 Conclusion	32
5.3 Recommendations	35
5.4 Implication for ELTs	35
REFERENCES	37
BIOGRAPHY	39

LIST OF TABLES

Tables	Page
4.1 Table.1 Core meaning	17
4.2 Table 2 Shared noun collocation	18
4.3 Table 3 Unique noun collocation	18
4.5 Table 4 High-Low Frequency Distributions of Four Adjectives by Genre	23
4.5 Table 5 Distributions of Four Adjectives by Individual Genre	24
4.6 Table 6 Shared grammatical structure for all adjectives.	26
4.6 Table 7 Shared grammatical structure for two or more of the adjectives	28
4.6 Table 8 Exclusive structure	28



LIST OF FIGURES

Figures	Page
4.5 Figure 1	21
4.5 Figure 2	22



CHAPTER 1

INTRODUCTION

1.1 Background of the study

Synonyms in a language are a basic concept. According to the Longman Dictionary of Contemporary English (LDOCE), it means “a word with the same meaning as another word in the same language” (LDOCE, 2014). The English language is rich in synonyms since it is derived from many other languages (Palmer, 1997). Many researchers have found that not all synonyms are completely interchangeable. They have to be chosen carefully, or else the message will fail to convey the intended meaning.

The researcher’s interest in the synonyms of *flammable*, *inflammable*, *combustible*, and *incendiary* stemmed from his interest in public safety. There is a famous quote from a cartoon the Simpson that said “Inflammable means flammable? What a country”. Why are *inflammable* and *flammable* synonyms? What does the character mean by ‘what a country?’ Are the two words used differently in different regions?

The in- prefix in *inflammable* can be misleading. Normally, when an adjective has an in- prefix we would assume the words to have negative or opposite meaning, but in the case of *inflammable* this is not the case. The word *inflammable* is synonymous to *flammable*, but is much less frequently used than *flammable*. However, the word *inflammable* actually predates the word *flammable*, as it started being used in the early 17th century, derived from the Latin verb *inflammare* meaning to set on fire.

Oil and gasoline trucks used to have the word *inflammable* labeled across it back, but nowadays the same kind of truck would be much more likely to have the word *flammable* printed on it (Bill, 2004). In the early 20th century, the firefighters were worried that people would mistake the term *inflammable* as being “unable to catch fire”, when actually the negative form of flammable would be *non-flammable*; so, they adopted *flammable* and *nonflammable* as the official safety label (Merriam Webster, 2008). Nowadays, *flammable* is preferred over *inflammable*, with *inflammable* seeing only occasional uses.

The synonymy of the term *flammable and inflammable* has never been extensively studied before, and *combustible and incendiary* are generally considered to be synonymous to the two terms, so investigating them can be beneficial and aid us in understanding the relationship among these synonyms. The aim of this study is to gain insight into the usage and the differences among the four synonyms. The findings of this study should prove useful for EFL and English speakers.

1.2 Research Questions

This study aims to answer the following questions:

1. What are the possible noun collocations of the four adjectives *flammable, inflammable, combustible, and incendiary*?
2. What are the grammatical patterns of the four adjectives *flammable, inflammable, combustible, and incendiary*?
3. What are the dialectical differences of the four adjectives *flammable, inflammable, combustible, and incendiary* being?
4. What is the degree of formality of the four adjectives *flammable, inflammable, combustible, and incendiary*?
5. What are the connotations of the four adjectives *flammable, inflammable, combustible, and incendiary*?
6. What type of synonyms (loose or strict) are the adjectives *flammable, inflammable, combustible, and incendiary*?

1.3 Objective of the study

1. To investigate the noun collocations of the adjectives *flammable, inflammable, combustible, and inflammable*.
2. To study the grammatical information of the adjectives *flammable, inflammable, combustible, and inflammable*.
3. To study how the adjectives *flammable, inflammable, combustible, and inflammable* are used in different dialects.
4. To study the degree of formality of the four adjectives *flammable, inflammable, combustible, and incendiary*?

5. To study the connotations of the adjective *flammable*, *inflammable*, *combustible*, and *inflammable*.

6. To study the characteristics of loose/strict synonyms, and to find out which of the two categories the adjectives fall into

1.4 Statement of the problem

As mentioned earlier, the terms *flammable*, *combustible*, *inflammable* and *incendiary* have never been intensively looked into, despite playing a significant role in public health and safety. The ambiguity surrounding the four terms has never been clarified, but with the data from the corpus database, we can observe the differences between the four adjectives and determine which words should be taught first to the learners of the English language (using frequency data).

1.5 Definitions of terms

A corpus is generally referred to in this field as “a large collection of authentic texts that have been selected and organized following precise linguistic criteria” (Sinclair, 1991). Studying corpus data can be highly beneficial for anyone interested in studying any language, since it allows us to observe many sets of data that are useful in understanding a language, such as collocational or grammatical patterns.

Synonyms are words that mean exactly or nearly the same as other words in the same language. For example, the words *flammable* and *inflammable* are synonymous since they share the same meaning, i.e., *able to burn easily*, but as we will see later in this research study there are certain differences between the two. There are two main types of synonyms, near-synonyms and absolute-synonyms, with most synonyms belonging to the former variation.

1.6 Scope of the study

The focus of this study is to unveil the similarities and differences in the four adjectives using corpus databases such as COCA and BNC. We can get information on how each adjective is used across different spoken and written genres. This information can be used to determine the differences in formality and styles, by comparing between COCA and BNC. We will also gain insight into how they are used across different

dialects. The COCA database can also provide us with other information such as the connotations associated with each adjective or what noun collocations often co-occur with each word.

1.7 Significance of the study

While there have been many research studies done on other synonyms, such as *big* and *large*, or *tall* and *high*, there has not been any done on the four adjectives in question. Hopefully, this research will clarify any ambiguity surrounding the terms; contribute toward the health and safety of the public; lead readers to understand the differences between the terms, enabling them to choose the appropriate word for the right situation; and lastly, allow learners of the English language to deepen their understanding of synonyms as a concept and gain new knowledge regarding the four adjectives being investigated.

1.8 Limitation of the study

Having investigated the frequency of the four adjectives *flammable*, *inflammable*, *combustible*, and *incendiary*, the researcher realized that the size of data is highly volatile; in COCA, the adjective *incendiary* and *flammable* are the most frequently used by far, at 1278 and 1030 hits, respectively; *Combustible* has 659 hits, occurring at a lower rate, while *inflammable* is barely used at all, with only 66 hits. With this much variation in the data even, it is not possible to present the data side by side as would be ideal.

1.9 Organization of the study

There are five chapters in this study. The first chapter serves as an introduction to the research. This chapter presents information on the background of the study, statement of problem, four research questions, the definition of terms, the limitation, significance, and scope of the study. The second chapter includes the review of literature on synonyms, the two types of synonyms (loose/absolute synonyms), theories that can be used to differentiate between the synonyms, and previous studies. The third

chapter concerns how data is collected, the dictionaries that were used, and the various corpora that the researcher obtained the data from.



CHAPTER 2

REVIEW OF LITERATURE

This chapter reviews the literature and theories that will help us in understanding corpus research. Section 2.1 and its subsections discuss what synonyms are and the types of synonyms found in the English language. Section 2.2 presents how synonyms can be differentiated using criteria such as formality, connotation, dialect, grammatical patterns, and collocations. And the last section of this chapter will discuss the previous studies.

2.1 Corpus study

A corpus is generally referred to in this field as “a large collection of authentic texts that have been selected and organized following precise linguistic criteria” (Sinclair, 1991). A text based corpus is stored digitally on a database (Lindquist, 2009), and the information on word usage is taken from a natural context; in fact, some corpus such as COCA get their information from both spoken and written English, which not only expands their database but also provides information on the degree of formality of the word that is being looked at.

When it comes to studying synonyms, corpus data has proven to be a valuable tool. The data from the corpus can be used to satisfy Palmer’s five criteria of differentiating synonyms (1997), which this research relies heavily on to address the research questions. Corpus data can give us information on collocations, connotations, grammatical patterns, and styles, and by comparing the data from two corpora that represent different dialects of English (COCA for American English and BNC for British English) we can get information on the dialectal difference of the synonyms.

However, a study based on corpus can have its limitations. A corpus, no matter how large or comprehensive, contains no negative evidence; in other words, if a word or pattern doesn’t appear in a corpus, it doesn’t necessarily mean that it can’t be used or occur in a language (Björkenstam, 2013). And although a corpus study can give us information on a subset of a language, it might not be able to cover the whole language;

but this doesn't mean that we cannot make careful generalizations about the language (Björkenstam, 2013).

2.2 Synonyms

There have been numerous studies of synonyms. The term synonym is defined by the *Longman Dictionary of Contemporary English* (2014) as “a word with the same meaning as another word in the same language”, such as how *shut* is a synonym of *closed*.

Similarly, the Oxford Advanced Learner's Dictionary (2015) defines the word *synonym* as “a word or expression that has the same or nearly the same meaning as another in the same language”. One example given from the dictionary is how *big* and *large* are synonyms.

It is worth noting that there are five criteria that can be used to distinguish synonyms: dialects, formality, connotations, grammatical pattern, and also collocations (Phoocharoensil, 2010; also Palmer, 1997), and in this research we can see that the four adjectives *flammable*, *inflammable*, *combustible*, and *incendiary* differ in these areas, as well.

2.2.1 Near/loose synonyms

Lyons stated (1995) that near-synonyms are expressions that, while similar, are not identical in meaning. The English language is very rich in near-synonyms, according to Palmer, because historically its vocabulary has been derived from many other languages. (Palmer, 1997: 59).

Looking back at the example given in Oxford Learner's Dictionary, *big* and *large* can function as near-synonyms. As found in the research conducted by Aimjirakul in 2013, it appears that “*large* is widely used in domains which are conventionally conceptualized in terms of horizontality, especially places and building; whereas *big* is widely used of domains which are conventionally conceptualized in terms of both horizontality and verticality” (2013:4). This means that even though *big* and *large* are similar in meaning, there are concepts that are associated with *big* but not *large*.

In this study, the near synonymy of the four adjectives is investigated, which means that even though the four adjectives share the same core meaning which is “to

cause fire” (LDOCE, 2004), they still differ considerably in other areas, such as how in terms of collocation *dust* is only seen collocating with *combustible*, or how *incendiary* is normally used to define “weapon and bomb”.

2.2.2 Absolute/strict synonyms

Having two words with the exact same meaning and words that can be fully used interchangeably under every context is considered uneconomical, and unnecessarily redundant; so if this is to happen to a language, one of them tends to change meaning or will become obsolete. Phoocharoensil (2010), in line with what Palmer (1997, 60) concluded that “no two words have exactly the same meaning. Indeed, it would seem unlikely that two words with exactly the same meaning would both survive in a language”. So, from these statements, we can say that absolute synonyms are rare and if they exist would be redundant.

Lyons (1995:61) similarly said that absolute synonymy is extremely rare, and a word will only be considered as being an absolute synonym on three conditions. Firstly, all their meanings are identical. Secondly, they are synonymous in all contexts. Lastly, they are semantically equivalent (i.e., their meaning or meanings are identical) in all dimensions of meaning, descriptive or non-descriptive.

Considering this information, it is obvious that the four adjectives being investigated are not absolute synonyms. Absolute synonyms are extremely uncommon in a language, as noted earlier. Besides, the four adjectives fail to fulfil Lyons’ three conditions.

Even though synonyms are similar in meaning, there are several ways synonyms can be differentiated, namely using collocations, connotations, grammatical patterns, style, and dialect.

2.3 Ways of differentiating between synonyms

In 1997, Palmer introduced five categories in which near synonyms can be differentiated from each other. The differences can be seen in their preferred collocations, grammatical patterns, connotations, style/formality/registry, and lastly dialect.

2.3.1 Collocation

The Longman Dictionary of Contemporary English defines the word collocation as “the way which some words are often used together, or a particular combination of words used in this way.” In the case of this research, we can see the example of how the four adjectives that are being investigated can take the noun *material* as a collocation; however, the noun *dust* can only take *combustible* as a collocation.

Palmer (1997) uses collocation as a way of differentiating between synonyms. Palmer determined that some words are collocationally restricted, which means that they only occur in conjunction with other words. The example given by Palmer is how the word *rancid* only occurs with *bacon* or *butter* (Palmer, 1997:62). In addition to collocation, there are four other criteria that can be used to differentiate between synonyms: connotation, grammatical pattern, formality and dialect. As for this research, the collocations of these four adjectives *flammable*, *inflammable*, *combustible*, and *incendiary* differ considerably. These differences will be presented in the upcoming chapter 4.

Collocation can also be used as a means to test synonyms. Palmer (1997) tested synonyms by substituting one word for another: If the synonyms are absolute, it would most likely pass the test, since absolute synonyms are mutually interchangeable under all circumstances; but as we all know, absolute synonyms most likely do not exist. The example given by Palmer is how the word *road* can collocate with both *broad* and *wide*, but an *accent* can only be *broad*. Palmer also noted the limitations of using substituting as a way of testing synonyms, such as how it only allows for the indication of the possible collocations and not necessarily the similarity of meaning.

2.3.2 Style/ Registry/ Formality

The tendency for synonymous words to appear in different styles can also be used to differentiate between them. Some contexts are more formal than others, and the speaker of the language should know the differences between formal and informal words. Words such as *comprehend* and *intoxicated* are more formal than *understand* and *drunk*, even though they share the same core-meaning (LDOCE, 2009 as cited by Phoocharoensil, 2010). Aside from the formality of the words, context should also be

taken into account when choosing between synonyms, such as how it would be strange to see the sign in the elevator that says “no more than 20 guys” as opposed to “no more than 20 persons”, since *guy* is less formal (Phoocharoensil, 2010).

Palmer (1997) sees this situation as being more problematic. According to him, it is harder to see the distinction between styles than between geographical locations. Palmer remarked that we generally do not switch between dialects mid-conversation; however, we may change between styles in conversation; this is done to achieve a certain effect. He noted that words such as *gentleman* and *chap*, or *pass away* and *die*, are synonyms, but differ in formality.

2.3.3 Connotation

Connotation refers to an idea that is suggested by or is associated with a word. Many words carry connotations that are either negative or positive based on the context and how the words are being used. The sentence *wise* men have made *plans* will evoke a positive feeling in the listener in comparison to the sentence *cunning* scoundrels have devised a *scheme*, as this sentence is more likely to cause the listener to have a negative feeling (Chandra, 2017).

Phoocharoensil gives us the example of *smile* and *sneer*. While these words two share common action, the difference is that *smile* tends to have a positive meaning. It expresses friendliness, while *sneer* conveys a more negative sense since it has the meaning of to smile or speak to someone in an unkind way, which suggests that the speaker has no respect toward someone (LDOCE, 2009 as cited by Phoocharoensil, 2010). Another clear example is *accept* and *concede*. While the core meaning of the pair is admitting that something is true, *accept* has the connotation of “the same opinion about something as someone else”; *concede* has the meaning of admitting to the truth even though one wishes it were untrue (LDOCE, 2009 as cited by Phoocharoensil, 2010).

2.3.4 Grammatical pattern

According to Thornbury (2002), there is certain grammatical pattern that co-occurs with each word. The words *say* and *tell* are a good example of this effect. These words are similar, but there is a significant difference when it comes to the grammatical

pattern of the two, such as how you can tell *someone something* but you cannot say *someone something*. The grammatically correct sentence for the two words would look like:

For say: V that (She *says* (that) she is cold)

For tell: V N that (He *told* me he was broke)

As for other words that have similar meaning to *say* and *tell*, they also tend to fall into one of the two grammar patterns. The verbs that follow the pattern *V that* are verbs such as *state*, *report*, *suggest* and those that follow the *V N that* pattern such as *warn*, *convince*, and *inform*. Thornbury also adds that confusing the pattern would lead us to make mistakes like ‘*The agency said to me it wasn’t their problem’, or ‘*I want to explain you something about the tour’ (Thornbury, 2002).

2.3.5 Dialect

A dialect is a manner of speech that is distinct in pronunciation, vocabulary, or grammatical pattern from one region to another (Wolfram, Adger, & Christian, 2007). While a dialect is usually interpreted geographically, it can also signal a person’s social background or occupation. An example of this is the American English *subway* contrasting with the British English *underground* or how *corn* is the same thing as *maize* in the United States (Ivić, 2014).

A dialect is different from an accent. An accent refers only to the difference in how a person pronounces a word, which is also part of a dialect. For example, a person who picked up a second language, such as an American who learned French, often will pronounce French words with a noticeable accent; yet this isn’t a distinct dialect, since the American may still speak French with the same vocabulary and grammar as a native French speaker. Hence, a dialect should be used to refer to a collective, socially shared way of speaking.

Palmer (1997) gave the example of how speakers with different dialects opt to use different words to describe the same thing. In the research, Palmer stated that people in the USA and some areas of western countries such as Great Britain use the term “fall”; where people in others region would use “autumn”.

At this point, we have discussed what synonyms are, the types of synonyms prevalent in the English language, and the five ways of differentiating between

synonyms (connotation, collocation, dialect, grammatical pattern and style). The following section will look at similar research studies that predate the current one.

2.4 Previous study

Almost all the previous synonym studies have come to the similar conclusion that the synonyms being studied are loose synonyms with a similar core meaning but differing from each other in some way.

Phoocharoensil (2010) examined five synonyms in the English language *ask, beg, plead, request, and appeal*. In terms of data collection, the researcher used several learner's dictionaries (Oxford Advanced Learner's Dictionary, Longman Dictionary of Contemporary English, and Cambridge Advanced Learner's Dictionary) and concordance lines. The chosen dictionaries claimed to have derived their data from authentic English based on language corpora. The Wordsmith program was used with the text from *Time* (1995), so the language that being used was journalistic language. His findings confirmed the abovementioned theory that most of the synonyms in English are loose synonyms and not absolute synonyms, which means they cannot be used interchangeably under every context, and there are many factors influencing their differences (collocation is one of such factors). Phoocharoensil also noted the importance of this knowledge in the language classroom, such as how the teachers should be aware of and point out these differences between words when teaching synonyms, and also how there is information out there that dictionaries don't provide but corpus-based data do.

Petcharat and Phoocharoensil (2017) looked into three English synonymous words, i.e., *appropriate, proper, and suitable*. The instruments used were three dictionaries (Longman Dictionary of Contemporary English 6th edition, Longman Advanced American Dictionary 3rd edition, and Macmillan Collocations Dictionary) and the corpus they used was also COCA. The results were similar to Phoocharoensil's earlier work (2010) in that the synonyms share the same common definition but differ both in terms of detailed meaning as well as style and formality, collocation, and grammatical structure, meaning they cannot be used interchangeably in every context.

Aimjirakul (2013) investigated a pair of near synonyms, *big* and *large*, using transcripts from MICASE. The results showed that there are many different contexts

where we cannot substitute *big* with *large* and vice versa. The two words have different contextual preferences. *Big* is more dominant and is more widely used due to how it is conceptualized both horizontal and vertical, while *large* is only widely accepted in the domain of horizontal. There are also differences in the conventional knowledge and collocation between the two, with *big* providing not only the same but larger meaning than *large* does; and lastly, *big* can be used as an amount in terms of number, such as *big salary*.

J.R. Taylor (2002) investigated the synonyms *high* and *tall* and found that *high* dominates *tall* in terms of frequency. Similar to research on *big* and *large* by Aimjirakul (2013), *high* can be used to refer to numbers such as high temperatures, and *tall* is limited to describing the vertical axis. Taylor concluded that “*Tall*, on the other hand, introduces a special perspective whose fixed landmark is a very restricted kind of verticality exhibited by humans.” He also remarked that “Similarity to the fixed which is human body sanctions the application of the word to a limited range of upright entities.” This study by Taylor is similar to many of the studies mentioned above. This shows us that even though two words might share the same definition, one of them is still likely to have differences and preferences in terms of how it is used.

CHAPTER 3

METHODOLOGY

In this chapter, we discuss how the data were gathered. In the initial stage, data was collected from various dictionaries such as the Longman Dictionary of Contemporary English and the Oxford Advanced Learner's Dictionary, followed by the corpora used in the research, which were COCA and BNC.

3.1 Data collection on core meaning

Longman Dictionary of Contemporary English (Online access) and Oxford Advanced Learner's Dictionary (Online access) were used to determine the meaning of adjectives *flammable*, *inflammable*, *combustible* and *incendiary*, examples in context, pronunciation and noun collocations. With the data that have been derived from the two mentioned dictionaries, a solid foundation was established for further investigation into the four synonyms.

The reason why Longman Dictionary of Contemporary English and the Oxford Advanced Learner's Dictionary were chosen for the research is that the two dictionaries, both the printed version and the online version, have a long-standing history as valuable tools for finding information on the meanings of words in English. In fact, the Oxford Advanced Learner's Dictionary, aside from being well known, is also one of the first advanced learner's dictionary ever printed (Fabijanić, 2017), so it is not surprising that they are very popular among users of English language; the online version of the dictionaries is also updated frequently, so the information is likely to be up to date.

These dictionaries can also provide us with information on word origin, such as was discussed earlier in regard to the in- prefix in *inflammable* being erroneous and mistaken as having a negative meaning. However, if we look at the origin of the word, it would be clear to us that the ambiguity comes from how the root word of *inflammable* is *inflammare*, a French or Latin word from the early 17th century.

3.2 Data collection for the 1st, 2nd and 3rd research questions

Corpus of Contemporary American English (COCA) was the main corpus for this study. This corpus provided us with concordance lines that show the similarities or differences of the adjectives *flammable*, *inflammable*, *combustible*, and *incendiary*, and also the top 50 noun collocations that immediately follow the adjective and frequently co-occur with each adjective; these collocations were ranked by their frequency rate, and only words with MI score of >3 were chosen to be studied.

To answer the research questions, various functions of COCA were used, such as the genre function, to get information on how the adjectives *flammable*, *inflammable*, *combustible*, and *incendiary* are used across formal and informal genres. In addition, concordance lines were used to see the grammatical patterns and the connotations of each adjective. Lastly, COCA has a function showing the collocation and the frequency at which each noun co-occurs with each adjective.

3.3 Data collection for the 4th research question

BNC (British National Corpus) was created by the Oxford University Press. It contains over 100 million words from a wide range of genres. It was also designed to represent a wide cross-section of British English. Employing COCA and BNC allowed for significant insight into how the four adjectives *flammable*, *inflammable*, *combustible*, and *incendiary* differ between different dialects (American English and British English).

CHAPTER 4

RESULTS

This chapter reports the results. Section 4.1 discusses the meanings of the four adjectives; the data were extracted from the Longman Dictionary of Contemporary English (LDOCE) and the Oxford Learner's Dictionary (OLD). Sections 4.2 and 4.3 focus on the noun collocations of each adjective; in particular, 4.2 discusses the noun collocations that are shared between two or more of the adjectives, while section 4.3 shows the noun collocations that are unique to an adjective. Also, in this section there will be a discussion of the reasoning behind why some adjective only occur with a certain noun. The next section will be on dialectal differences of the four adjectives; the data come from two different corpora, COCA and BNC, representing American English and British English, respectively. Section 4.4, 4.5, and 4.6 report the results on the dialectal differences, degrees of formality, and grammatical patterns, respectively. Finally, the results on connotations are presented in section 4.7.

4.1 Meaning

Both the Longman Dictionary of Contemporary English and the Oxford Advanced Learner's Dictionary showed that the words share a similar core meaning as something that “burns easily” or “something that can cause fire”. Even though the definitions from the dictionaries may be similar, there are differences to be seen, such as how the adjective *inflammable* can carry the connotation of “easily becoming violent” on top of the basic definition. See Table 1 for the similarities and differences obtained from the two dictionaries.

Table 1

Meanings of flammable, inflammable, combustible and incendiary from LDOCE and OLD

Word	LDOCE	OLD
flammable	Something that is flammable burns easily	That can burn easily

inflammable	1 Inflammable materials or substances will start to burn easily 2 Easily becoming angry or violent, or making people angry or violent	That can burn easily
combustible	Able to burn easily	Able to begin burning easily
incendiary	Designed to cause a fire	1 Designed to cause fires 2 Causing strong feeling or violence

4.2 Shared noun collocations

Since the part of speech of the four words under investigation is adjective, the collocations are nouns. The following set of data show the noun collocations that are seen collocating with more than two of the investigated adjectives, such as how the noun *oil* can be used with both *flammable* and *combustible*.

The MI (Mutual Information) score should also be taken into consideration when we study collocations, with the significance of the MI score determining the strength of a collocation in relation to the size of the corpus; normally, in a corpus study, a collocation needs an MI score of 3 or more in order to be considered a collocation. Table 2 below displays the noun collocations with a 3 MI score or more, shared by any two attributive adjectives found in COCA.

Table 2

Noun Collocations Shared by Two (Attributive) Adjectives

Adjectives	Noun collocations and frequency
<i>Flammable, incendiary</i>	Device (F 8, Inc 167), Explosive (F 5, Inc 7)
<i>Flammable, inflammable</i>	Compound (F 16, Inf 1), gasoline (F 15, Inf 1), nitrate (F 5, Inf 1),

<i>Flammable, combustible</i>	Fluid (F 6, C 4), oil (F 13, C 6), substance (F 27, C 6), vapor (F 9, C 4), methane (F 13, C 5), oxygen (F 8, C 5), waste (F 4, C 6), wood (F 11, C 3), hazard (F 6, C 6)
<i>Flammable, combustible, incendiary</i>	Chemical(F 23, Inc 13, C 10), mixture(F 10, Inc 4, C 23)
<i>Flammable, inflammable, combustible</i>	fuel(F 22, Inf 2, C 24), hydrogen(F 15, Inf 2, C 6)
<i>Flammable, inflammable, incendiary</i>	fire (F 13, Inf 2, Inc 26)
<i>Inflammable, combustible</i>	Situation (Inf 2, C 11)
<i>Inflammable, combustible, incendiary</i>	Mix (Inc 4, Inf 1, C 40)
<i>Incendiary, combustible</i>	There is no common noun collocation
<i>Incendiary, Inflammable</i>	There is no common noun collocation
<i>Flammable, Inflammable, Combustible, Incendiary</i>	material (F 75, Inc 13, C 70, Inf 6), gas (F 97, Inc 7, C 47, Inf 2), liquid (F 129, Inc 6, C 7, Inf 2)

Notes to abbreviations: F = Flammable, Inf = Inflammable, C= combustible, and Inc = Incendiary. The numbers following the abbreviations represent the frequencies

4.3 Unique noun collocations

Similar to section 4.2, this section investigates the noun collocations that are only seen with a specific adjective, such as how the noun *dust* is only seen collocating with the adjective *combustible*.

Table 3

Adjective	Noun collocations
<i>Flammable</i>	– component (6), vegetation (7), container (10), pajamas (5), curtain (4), fabric (10), cotton (4), aerosol (12), can (7) etc.

<i>Combustible</i>	Region (4), dust (38), environment (6), explosion (6), tobacco (7), metal (5), product (6), nature (5) etc.
<i>Inflammable</i>	Dork (1), weirdo (1), fossil (1), bone (1), hemp (1), rice (1), gallon (1) etc.
<i>Incendiary</i>	Rhetoric (44), comment (35), statement (19), language (15), phosphorus (3), shell (7), bombing (7), bomb (73), Charge (10), grenade (7), ammo (4), round (6), weapon (17) etc.

The collocations that all four adjectives can take are material, gas and liquid, which is a relatively small number. It is worth noting that the three nouns are seen co-occurring with the four adjectives in high frequency. Based on this, when describing a material, liquid, or gas as being able to catch/start fire, and burn easily it is safe to choose one of the four adjectives presented. These nouns can also be a good example of the importance of frequency data. Inflammable is by far the least frequently used among the four according to COCA; even though it might be acceptable to use these nouns with any of the adjective, we should still keep in mind the low frequency of inflammable.

There are also words with meanings that are close to each other but are not collated with every adjective. These include methane and oxygen, which appear with *flammable* and *combustible*, nitrate, cooccurring with *flammable* and *inflammable*, and phosphorus, cooccurring with *incendiary* exclusively. These nouns are all flammable chemical elements; although oxygen is not necessarily flammable in itself, it can accelerate combustion. While there is not a single chemical element that ended up being collocated with all four adjectives, all of the adjectives were seen collocating with the chemical elements.

Similarly, there are words that have similar meaning but have their own preferred adjectives. Nouns such as *grass* and *rice* exclusively collocate with *inflammable*, or *cotton* which is only seen occurring with the adjective *flammable*; and tobacco, a word that is only seen with *combustible*. These words at their core refer to a form of vegetation that is able to burn easily—so under this context it might still be safe to use one of the three adjectives.

Combustible and *flammable* have special connotations in figurative speech, which are not found in any other adjective. *Combustible* and *Inflammable* can be seen frequently co-occurring with the noun *situation*. While there is no example of *combustible situation* or *flammable situation* given in the Longman Dictionary and the Oxford Advanced Learner's Dictionary, there is an example of *combustible situation* from the Longman Corpus, i.e., "Others in the plane were smoking, and a *combustible situation* might arise". Since the definition of *combustible situation* was given in neither the Longman dictionary nor the Oxford Advanced Learner's Dictionary, a third dictionary was needed to understand the definition of such a collocation. In Merriam Webster Learner's dictionary, there is a definition for both the terms *combustible*—meaning able to be burned easily—and *combustible situation*, referring to a situation in which people are angry and could become violent. This is quite notable considering how *situation* refuses to take others synonym as its adjective, and how the word is also within the top ten most frequently co-occurring nouns for *combustible*.

Another special meaning that *flammable* might have in figurative speech is to be used to describe the personality trait of "easily becoming angry or violent", as seen in how it is collocated with the noun "dork" or "weirdo", which are already nouns with negative meaning.

The adjective *incendiary* is often seen co-occurring with nouns that are related to weaponry/explosive/explosion. Nouns like bomb, weapon, grenade, device and bullet are exclusive to it. This information combines with one of the possible definitions for *incendiary*, which defines objects designed to cause fire. Furthermore, there are also a few examples from the dictionary that indicate this; from the Longman Dictionary, one of the given example was "sources said the explosion seem to have been caused by an *incendiary device*". We can thus get a clear picture of what an *incendiary weapon* might be; in fact, *incendiary* (plural *incendiaries*) can also be a noun, meaning "a bomb designed to cause a fire".

On the subject of *incendiary*, in line with the definition from both Longman Dictionary of Contemporary English (2014) and the Oxford Advanced Learner's Dictionary, *incendiary* can also have the connotation of causing strong feelings or violence. The definition of *incendiary* given in the Longman Dictionary of

Contemporary English (2014) is that “an *incendiary* speech, piece of writing etc. is intended to make people angry”, or in the example ‘in its place is a new rhetoric, an *incendiary* rhetoric, a rhetoric of vitriolic accusation’; this definition and pattern is exclusive to the adjective *incendiary* alone, evident in how some of the highest frequency noun collocation of *incendiary* are nouns such as rhetoric, comment, remark, statement, language or topic. All of these nouns suggest that the said noun has the characteristic of being provocative and intending to make people angry in line with the dictionary definition.

Lastly, the adjective *combustible* has been seen frequently taking *dust* as its noun collocation; this can be explained by the word *combustible dust*, a term that is used widely across various industries. According to the Canadian Centre for Occupational Health and Safety (CCOHS), a *combustible dust* is any fine material with the ability to catch fire and explode when mixed with air; *combustible dust* can refer to pesticides, textiles, chemical dusts, and even agricultural product such as powdered milk. Having seen the wide range of things that could be considered *combustible dust*, it is not surprising that ‘dust’ has such a high frequency on the list.

4.4 Dialect

Figure 1

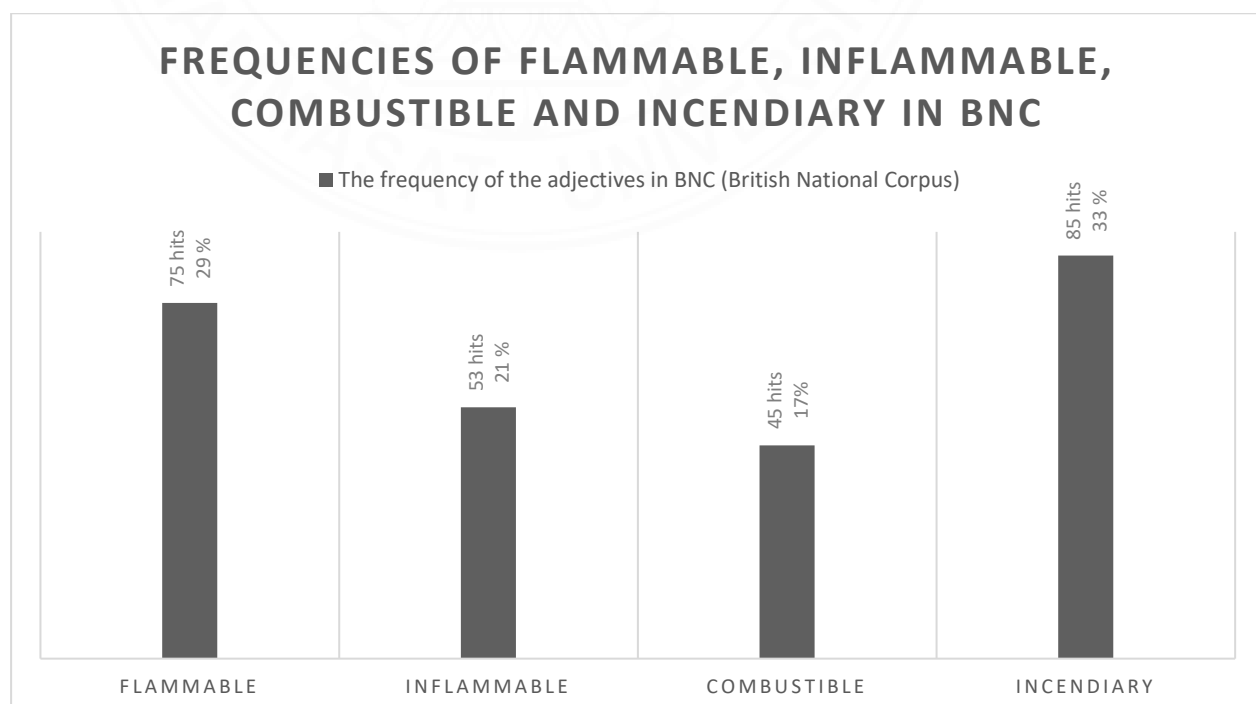
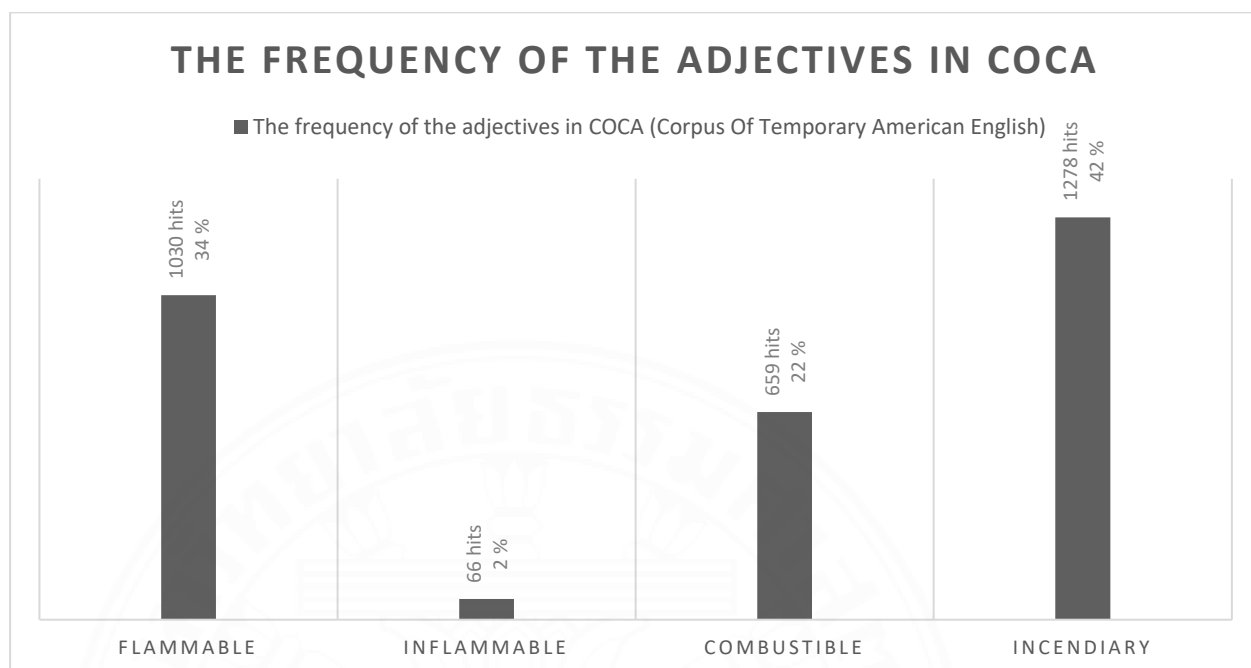


Figure 2



Comparing the frequency of the four adjectives *flammable*, *inflammable*, *combustible*, and *incendiary* has revealed significant differences in the frequency at which these words are used in American English and British English.

From the British National Corpus, all of the four adjectives *flammable*, *inflammable*, *combustible*, and *incendiary* are close in frequency with *incendiary* being the most frequently used (85 hits), followed by *flammable* (75 hits), *inflammable* (53 hits), and the least frequent being *combustible* (45 hits).

The same can't be said about the data from COCA, as the adjectives *incendiary* and *flammable* are the most frequently used by far (1278 and 1030 hits respectively). Meanwhile, *combustible* (659 hits) occurs at a lower rate, and what's interesting is that *inflammable* is barely used at all (only 66 hits).

From this data we can make an assumption that in British English any of the four adjectives can be used, whereas in American English *incendiary*, *flammable*, and *combustible* can be used, but *inflammable* is rarely used and should be avoided.

4.5 Formality/ Genre

Formality is an important factor when choosing between synonyms. Generally, the information on the degree of formality of some words can be found in dictionaries.

The two dictionaries that this research is based on (LDOCE and OALD) also provide such information; for example, in the Oxford Advanced Learners Dictionary, when the word *incendiary* was looked up, aside from the core meaning of the word, the dictionary also provides the information that the adjective *incendiary* can also carry mean ‘causing strong feeling’ when used formally, and the example given is *incendiary remark*.

Corpus like COCA can provide further information regarding the formality of words. With the genre function, we can gain insight into how frequently the words are being used across different genres, such as spoken, fiction, magazine, news, and lastly academic genres.

See Table 4 for frequency distributions of the four adjectives across different genres.

Table 4

High-Low Frequency Distributions of Four Adjectives by Genre

Adjective (Fr. = Frequency)	High-Low Frequency Distributions of Four Adjectives by Genre					
Flammable	Magazines	News	Spoken	Fiction	Academic	Total
Fr.	191	137	116	89	85	
Percentage	30.91	22.17	18.77	14.4	13.75	618
						100
Inflammable	Magazines	Spoken	Academi	Fiction	News	Total
Fr.	18	9	c	6	2	
	43.9	21.95	6	14.63	4.88	41
Percentage			14.63			100
Combustible	Magazines	News	Spoken	Acade	Fiction	Total
Fr.	145	115	77	mic	51	443
	32.7	25.95	17.38	55	11.51	100
Percentage				12.41		

Incendiary	News	Magazi	Spoken	Acade	Fiction	Total
Fr.	215	nes	159	mic	82	785
Percentage	27.38	211	20.25	118	10.44	100
		26.87		15.04		

Table 5

Table 5 the distributions of the four adjectives by individual genre, as opposed to frequency, which is presented by Table 4.

Distributions of Four Adjectives by Individual Genre

Adjective (Fr. = Frequency)	Distributions of Four Adjectives by Individual Genre					
	Magazines	News	Spoken	Fiction	Academic	Total
Flammable	191*	137	116	89	85**	Total 618 100
Fr.	30.91	22.17	18.77	14.4	13.75	
Percentage						
Inflammable	18*	2**	9	6	2	Total 41 100
Fr.	43.9	4.88	21.95	14.63	4.88	
Percentage						
Combustible	145*	115	77	51**	55	Total 443 100
Fr.	32.7	25.95	17.38	11.51	12.41	
Percentage						
Incendiary	211	215*	159	82**	118	Total 785 100
Fr.	26.87	27.38	20.25	10.44	15.04	
Percentage						

Note: * represent the highest frequency, ** represent the lowest frequency

With this data we can see that the four adjectives are frequently used in the magazine genre, ranking first in *flammable*, *inflammable*, and *combustible*; only *incendiary* is a close second at 211, with the news genre being first at 215.

The four adjectives are frequently used under the news genre, scoring second for two of the four adjectives (*flammable* and *combustible*), while being first for *incendiary*. A possible explanation for this is the nature of the core meaning of the words; it is not out of the realm of imagination that the news would report about fire, which the four adjectives can be used to describe the cause of such incidents; an example of the adjective *flammable* being used in the news from the COCA corpus is ‘filling it full of *flammable* materials and failing to install safety equipment like sprinklers’ as reported by Minneapolis Star Tribune. The news genre scored first for the adjective *incendiary*. One possible explanation would have to do with how the adjective can also be used to describe explosive devices, or provocative speech or messages, which is a feature unique to this adjective; two examples from COCA are how the Boston Globe reported that ‘Brexit is an incendiary topic’; or how The Seattle times reported ‘this time armed with a rifle and incendiary devices’; In the Boston Globe, ‘an incendiary topic’ refers to a topic likely to incur anger, a negative connotation; while in the Seattle times, ‘incendiary devices’ are used in association with ‘a rifle’, suggesting a literal use.

The next comparison that we can make to judge the formality of words is to compare the frequency at which words occur under the spoken genre and the academic genre since the spoken genre is generally very informal, while the academic genre is considered to be formal in most cases. In terms of ranking, all four of the adjectives have higher frequency under the spoken genre when compared to the academic genre; however, it is apparent that in three of the adjectives—*inflammable*, *combustible*, and *incendiary*—the spoken genre is always right next to the academic genre, and in the case of *flammable* the frequency in the two genres are very close. With this information it is safe to make an assumption that, while the four adjectives are more prevalent in the spoken genre in comparison to the academic genre, the difference is small; therefore, the four adjectives can be used when we are speaking or writing academically.

4.6 Grammatical patterns

In the last section of chapter 4, it should become clear that all four adjectives are most likely to be close synonyms. Similar to every other section of this chapter, there are certain grammatical patterns that all four of the adjectives can occur in, such as flammable/inflammable/combustible/incendiary + Noun + Verb, and there are also a few patterns that are exclusive to one or two of the adjectives, e.g., the pattern combustible/incendiary + Proper Noun is not seen in flammable and inflammable instances.

However, note that the grammatical pattern presented in this section most definitely is not representative of all possible patterns that can occur in a language. While corpus is a powerful tool, it only represents a subset of a language and doesn't necessarily present what is possible in the whole language. Furthermore, there is no corpus that stores negative evidence of occurring grammatical patterns, which means that if a pattern doesn't appear in a corpus, it doesn't necessarily mean that it can't be used in a language. (Björkenstam, 2013).

Due to time and resource constraints, the researcher was not able to exhaust all the concordance lines available in the COCA corpus, and instead opted to investigate 200 concordance lines of flammable, combustible and incendiary using the KWIC (Key Word In Context) function of the COCA corpus, and the 66 concordance lines of inflammable that were available, as noted earlier. Table 5 below illustrates the grammatical patterns (by means of word order) in which these adjectives appear. Note that _ represents a slot where one of the four adjectives can occupy.

Table 6

Shared Grammatical Patterns of Four Adjectives and Examples

No.	Pattern	Example
1	_N	<i>Combustible dust, flammable liquid, inflammable material, incendiary material</i>

2	_N N	<i>Flammable</i> infant pajamas, <i>combustible</i> fuel source, <i>flammable</i> plastic firework, <i>incendiary</i> , incendiary gas device
3	_N V	<i>Flammable</i> liquid includes, <i>flammable</i> resin is, <i>combustible</i> fuel is, <i>incendiary</i> devices have
4	_N prep	<i>Flammable</i> gas in, <i>flammable</i> liquid into, <i>combustible</i> dust in, <i>incendiary</i> bomb against
5	_N adv	<i>Flammable</i> stuff here, <i>flammable</i> ingredient when, <i>combustible</i> material there, <i>incendiary</i> remarks straight
6	Adv _ N	Highly <i>flammable</i> compound, highly <i>flammable</i> nitrate, already <i>combustible</i> region, more <i>incendiary</i> claim
7	Preposition _ N	Of <i>flammable</i> material, with <i>flammable</i> hemp, of <i>combustible</i> cigarettes, with <i>incendiary</i> gas
8	V Adv _	Considered highly <i>flammable</i> , was highly <i>flammable</i> , remains highly <i>combustible</i> , think, rather <i>incendiary</i>
9	Adv Adv _	Also very <i>flammable</i> , much more <i>flammable</i> , far more <i>combustible</i> , most jaw-droppingly <i>incendiary</i> .
10	N V (be) _	Earwax is <i>flammable</i> , gasoline is <i>flammable</i> , potassium chloride is <i>combustible</i> , article is <i>incendiary</i>

Table 7 below displays the grammatical patterns in which two or more adjectives appear.

Table 7

Shared Grammatical Patterns of Two or More Adjectives and Examples

No.	Pattern	Example
1	Fl., Com., Inc. + Adj + N	<i>Flammable</i> chemical factory, <i>combustible</i> solid waste, <i>incendiary</i> national crises
2	Com., inc + proper noun	<i>combustible</i> Edison, <i>incendiary</i> Maurice Lucas
3	As + com., Inc + As	As <i>combustible</i> as, as <i>incendiary</i> as
4	Prep + Com., Inc + adj	with <i>combustible</i> material, than <i>incendiary</i> social
5	Adj.+ Prep + Fl,Inf,Inc + N	Full of <i>incendiary</i> canister, set themselves afire with <i>inflammable</i> liquids, deep in flammable liquid
6	N+ Adv + Fl,Inf, Com	the plants more <i>flammable</i> , a mammal so <i>inflammable</i> , area where <i>combustible</i>

Table 8 below illustrates the patterns where the individual adjectives occur exclusively.

Table 8

Adjective	Pattern	Sentence/Phrasal Example
Flammable	Adv _ Adj	The typical Vallejo house is a charming, <i>highly flammable</i> <i>wooden</i> Victorian
Incendiary	Proper noun_N	Donald Trump incendiary comments
Inflammable	V (be) _ V (be)	Something that is inflammable is something that can be inflamed.
Combustible	V (be) _ Pronoun	You must not <i>be combustible yourself</i>

	V _ Adj	every light never <i>sleeping combustible burning</i> within your skin
--	---------	--

Nouns predominantly occupy the position following a given adjective. This makes a lot of sense, considering the synonyms are all adjectives. As for the position in the front of the adjective, there are mainly two options, i.e., verb and adverb.

There are many grammar patterns that are shared among one or more of the four adjectives, such as any of the 4 adj + N + prepositions, or adv + any of the 4 adj + N, while there are only a few unique patterns per adjective. Particularly, we see shared patterns a lot more frequently than unique patterns, and in most cases only one or two tokens were found in per 200 concordance lines.

Evidently, there is only a handful of patterns that are exclusive to a given adjective. Even then it is most likely that the exclusive patterns seen are due to the limited number of examples provided by the corpus. For example, the pattern V. + inflammable + V. in “something that is inflammable is something that can be (or is able to be) *inflamed*.” In this sentence the adjective inflammable can easily be replaced with the other three synonyms (flammable, combustible, or incendiary), and it would retain the same grammatical integrity and be no substantial change to the meaning of the sentence. Another example of how the unique pattern might actually be a shared pattern is the pattern of As + Combustible/incendiary + As; as in ‘each side is as incendiary as ever’, in this case if we change the adjective incendiary to any of the other three adjective, with consideration to the context and collocation, there should not be any problem.

While the restrictions on data may obscure the fact that some adjectives can be used interchangeably, there might be some unique grammar patterns that are not interchangeable among the adjectives. For instance, the adjective combustible (or incendiary) cannot be replaced by inflammable (or flammable) when preceding a proper name, e.g., ‘the aging but incendiary Maurice Lucas’. As noted earlier, some but not all of the synonyms can be used to describe a person’s characteristics, commonly meaning

that the person is easily provoked or gets angry easily; so it is possible that the pattern of combustible/incendiary + proper noun, is unique, and not interchangeable.

Therefore, it should be safe to assume that most of these patterns are interchangeable between the four adjectives, with a few exceptions; and we should focus more on the other possible differences such as formality or connotation when choosing between the synonyms.

4.7 Connotation

Connotation, according to LDOCE, has the meaning of ‘a quality or an idea that a word makes you think of more than its basic meaning’. If the basic meaning of the synonyms is ‘to cause fire’, then connotation in this case would be any meaning or ideas that can be inferred beyond that sense.

Incendiary can have referential meaning beyond ‘to cause fire’. It can also be used to describe a speech or a piece of writing that is provocative or is made with the intention of making others angry, a feature not seen in other adjectives. For example, in ‘However, that does not give Rush the license to use this incendiary language’, incendiary has the connotation of anger.

As mentioned earlier, some of the synonyms can be used to describe a person’s characteristics. Even in this sense, in every case that the researcher investigated, it implies a negative personality, generally meaning that the person being described is easily angered, or easily provoked. For example, ‘Leland Armburster is a dork. Better a rich dork than an inflammable weirdo’.

The tone of the sentences that the adjectives appear in tend to uniformly be negative or at best neutral sentences judging from how the sentences feel to read. Investigating the concordance lines, all four adjectives have the common trend of conferring negative meaning, or are used to describe an object. For the concordance lines that the researcher has observed, there is no line that evokes a positive feeling. Examples from the corpus include ‘After which he poured flammable liquid in to himself all over his body, and set himself on fire’ (negative feeling); ‘Waxed clothes impregnated with inflammable hemp’ (neutral feeling); ‘hot graphite was ejected from

the core and at a temperature sufficient to ignite the adjacent combustible material” (can be neutral or negative); “the use of incendiary explosives on urban populations” (Negative feeling).



CHAPTER 5

DISCUSSION, CONCLUSION, AND RECOMMENDATIONS

The content of this last chapter is as follows. In 5.1 this section discusses what has been researched on the subject, the research findings, and whether or not the research gets a satisfactory answer to the research questions. The following section 5.2 presents the conclusion of the research. 5.3 and 5.4 concern further recommendation for researchers that are interested in the topic, and the implication of this research for ELTs.

5.1 Discussion

The results of this research affirm the research hypothesis that the four adjectives are near-synonyms, meaning that they share core meaning but have differences in terms of collocation, grammatical pattern, connotation, dialect, and formality. The hypothesis that all four adjectives are near-synonyms was formed by using the knowledge gained from past research studies; almost all of the research studies on synonyms that have been done found that the synonyms they investigated are in fact near-synonyms, which makes it likely that the four adjectives in question are near-synonyms as well.

All of the previous studies that were referred to in chapter 2 found that the synonyms that were investigated were near-synonyms and not absolute synonyms; for example, Aimjirakul's research found that large and huge share a core meaning, but there are substantial differences in their connotation. Taylor investigated high and tall as near synonyms (2002), finding that while high and tall is similar in meaning, they too have differences, such as how high is able to refer to numbers, while tall cannot be used in the same way. Similarly, Phoocharoensil (2010) investigated the near synonymy of the verbs ask, beg, plead, and beckon; furthermore, quoting Kreidler's research (1998), Phoocharoensil provided insight into how no two words share the exact

same linguistic features, and it would be useless for a language to have two words that mean exactly the same without any differences between them.

The research questions were inspired by Palmer's research (1997). Palmer introduced five ways synonyms can be differentiated using collocation, grammatical pattern, dialect, connotation and formality. Using these criteria, the researcher was able to establish a foundation for the research and set up a methodology to answer the research questions.

Methodologically, the COCA corpus provides us with most of the information needed to answer the research questions. The corpus provided the concordance lines, which when investigated showed the differences in collocation, connotation, and grammatical pattern. The genre function provided information on the style and the degree of formality of each adjective. The exception is the dialect section, which is not available in COCA. Another corpus was required to represent the variety of English; for this the researcher chose BNC, representing British English, to compare with American English in COCA.

5.2 Conclusion

After having researched the four adjectives, it is safe to say that all four of them are most likely to be near-synonyms. Near-synonyms are defined as words that share a core meaning but differ in one or more ways. In this research, we confirmed the core meaning using dictionary definitions, then used the criteria set by Palmer's and the COCA corpus to get information on the differences of the synonyms.

Firstly, while it is true that there are a number of nouns that can be collocated with one or more of the adjectives (i.e. material can be used with any of the adjective), there are many nouns that only co-occur with a specific adjective, such as dust with combustible; or some adjectives like inflammable can be used with noun describing the characteristic of a person. Overall, many nouns can safely be used with any of the four adjectives, while some need to be carefully selected as they might not be compatible with some adjectives.

Secondly, the four adjectives differ a little in terms of their formality; some would be more prevalent in spoken language, and others would be more likely to be seen in formal or academical language. Despite the differences, the frequency by section is still generally quite similar; therefore, it might be possible to say that, despite the differences, the four adjectives are viable options in both the formal and informal genres.

Thirdly, by comparing the two corpora (COCA and BNC) the researcher was able to get information on how the adjectives are used across two English dialects, which are British English and American English. The result showed substantial differences in how the adjectives are used in the two dialects. What was found in terms of frequency is that in COCA the two high frequency words are flammable and incendiary at 1030 and 1278 hits respectively, while combustible see less frequency at 659 hits, and inflammable barely sees any use at all, only having 66 hits. In contrast, BNC corpus reported that all four adjectives are close to each other in terms of frequency. The most interesting finding was how the frequency of 'inflammable' in British English is close to the other three adjectives, while in American English it is much less used.

Next is connotation, wherein the sense of meaning expands beyond the core meaning of 'burns easily'. In this case, each adjective has its own connotations that are unique to them; for example, incendiary can have the connotation of 'provocative' when it is used to describe a piece of writing or speech, or how inflammable when used to describe a person has a connotation of 'easily becoming angry'. In terms of tone, generally the four adjectives are used in a negative or neutral sense.

Lastly, in terms of grammatical patterns, the four adjectives have multiple differences between them. From the corpus we see many patterns that are shared among the adjectives, and only a handful are unique to an adjective. And even then, the unique grammatical pattern seen in the corpus might be applicable to other adjectives; for example, the As _ As pattern, is only seen in one adjective, but in using intuition the researcher sees no reason why it shouldn't be used with other adjectives as well.

5.3 Recommendation

There are a few recommendations that the researcher would like to make regarding possible research on the topic. Firstly, it might be beneficial to the understanding of the adjectives if more concordance lines are investigated. This would lead to a better understanding of the differences of the synonyms, such as how investigating more concordance lines can provide further insight into the differences between the adjectives (more information on grammatical patterns or shared and unique collocations).

Another possible approach for further research is investigating the adjectives using different corpora altogether, as this should provide insight into how the different adjectives are being used across different dialects. Furthermore, there are corpora that are more focused on a specific genre, so using these may yield more information on how the adjectives are used in the specific genres.

5.4 Implication for ELTs

For ELTs, as the four adjectives might not be high frequency words, teachers can teach these adjectives after the students have a solid foundation in knowledge of the basic high frequency vocabulary. However, in the researcher's opinion, many aspects of this research might not be all that useful for low proficiency learners, except for the fact that inflammable and flammable have the same meaning and directly concern their safety.

This research might be of more use to more advanced learners due to two reasons: the first reason is that these adjectives are not a high frequency words, and it is therefore not crucial that learners learn them right away; and secondly, these words appear more in magazines, academic contexts and news, which are learning channels that advanced learners can explore autonomously—hence, knowing the differences between them can be more useful in this stage of learning.

Lastly, there are further implications for ELTs who are teaching in the field of journalism and mass communication. It is apparent that the four adjectives are most

frequently used in news and magazines, media channels that the students in this field are most likely to be involved in. If teachers can raise the class's awareness of the differences between the synonyms, it can be highly beneficial for the students in their future careers, as well as for the public who will be the recipients of such information.



REFERENCES

- Adger, C.T., Wolfram, W., & Christian, D. (2007). *Dialects in Schools and Communities* (2nd ed.). Routledge. <https://doi.org/10.4324/9781410616180>
- Aimjirakul, P. (2015). Big and Large as Near Synonyms. *Thammasat Review* 16(3), 1-15. Thammasat University.
<https://sc01.tci-thaijo.org/index.php/tureview/article/view/40727/33743>
- Canadian Centre for Occupational Health and Safety (2015) Combustible Dust
https://www.ccohs.ca/oshanswers/chemicals/combustible_dust.html
- Ivančić, I., & Fabijanić, I. (2017). Structural Development of Oxford Advanced Learners? Dictionary. *Journal of Literature and Art Studies*, 7.
<https://doi.org/10.17265/2159-5836/2017.05.012>
- Ivić, P. and Crystal, David (2014). *Dialect*. *Encyclopedia Britannica*.
<https://www.britannica.com/topic/dialect>
- Lindquist, H. (2009). *Corpus linguistics and the description of English*. Edinburgh University Press.
- Longman Dictionary of Contemporary English (n.d.) Flammable. In longman dictionary of contemporary English Retrieved January 9, 2021, from <https://www.ldoceonline.com/dictionary/flammable>
- Longman Dictionary of Contemporary English (n.d.) Inflammable. In longman dictionary of contemporary English Retrieved January 9, 2021, from <https://www.ldoceonline.com/dictionary/inflammable>
- Longman Dictionary of Contemporary English (n.d.) Combustible. In longman dictionary of contemporary English Retrieved January 9, 2021, from <https://www.ldoceonline.com/dictionary/combustible>

Longman Dictionary of Contemporary English (n.d.) Incendiary. In longman dictionary of contemporary English Retrieved January 9, 2021, from <https://www.ldoceonline.com/dictionary/incendiary>

Lyons, J. (1995). *Linguistics Semantics: An Introduction*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511810213>

Merriam-Webster. (n.d.). Inflammable. in *Merriam-Webster.com dictionary*. Retrieved January 9, 2021, from <https://www.merriam-webster.com/dictionary/inflammable>

Merriam-Webster. (n.d.). Combustible. In *Merriam-Webster.com dictionary*. Retrieved June 20, 2021, from <https://www.merriam-webster.com/dictionary/combustible>

Nilsson Björkenstam, K. (2013). What is a corpus and why are corpora important tools? Nordic seminar: How can we use sign language corpora? Copenhagen, Denmark, December 12-13, 2013

Oxford University Press (n.d.) Combustible. In Oxford advance learner's dictionary. Retrieved January 9, 2021, from <https://www.oxfordlearnersdictionaries.com/definition/english/combustible?q=combu>
Stible

Oxford University Press (n.d.) Flammable. In Oxford advance learner's dictionary. Retrieved January 9, 2021, from www.oxfordlearnersdictionaries.com/definition/english/flammable?q=flammb
[le](https://www.oxfordlearnersdictionaries.com/definition/english/flammable?q=flammb)

Oxford University Press (n.d.) inflammable. In Oxford advance learner's dictionary.

Retrieved January 9, 2021, from

<https://www.oxfordlearnersdictionaries.com/definition/english/inflammable?q=inflammable>

Oxford University Press (n.d.) incendiary. In Oxford advance learner's dictionary.

Retrieved January 9, 2021, from

https://www.oxfordlearnersdictionaries.com/definition/english/incendiary_1?q=incendiary

Palmer F.R. (1997) *Semantics 2nd Edition*, Great Britain, University of Cambridge

https://salahlibrary.files.wordpress.com/2017/05/palmer_f-r_-_semantics-a_new_outline.pdf

Paul, B. (2013). "INFLAMMABLE". *Common Errors in English Usage*. Washington

State University. <https://brians.wsu.edu/2016/05/24/inflammable/>

Petcharat, N., & Phoocharoensil, S. (2017). A Corpus-Based Study of English

Synonyms: Appropriate, Proper, and Suitable. *LEARN Journal: Language Education and Acquisition Research Network*, 10(2), 10-24

<https://so04.tci-thaijo.org/index.php/LEARN/article/view/111700/87164>

Phoocharoensil, S. (2010). A corpus-based study of English synonyms. *International Journal of Arts and Sciences*, 3(10), 227-245.

http://www.openaccesslibrary.org/images/BGS109_Supakorn_Phoocharoensil.pdf

Sinclair, J., Sinclair, L., & Carter, R. (1991). *Corpus, Concordance, Collocation*.

Oxford University Press.

Taylor, J.R. (2002) Near synonym as co-extensive categories: 'high' and 'tall

'revisited, *Language Sciences* 25(3), 263-284

[https://doi.org/10.1016/S0388-0001\(02\)00018-9](https://doi.org/10.1016/S0388-0001(02)00018-9)

BIOGRAPHY

Name	Mr. Polwiwat Askrapond
Date of Birth	April 15 1997
Educational Attainment	2018: Social Policy and Development
Work position	Freelance Tutor

