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### ARTICLE

### A Corpus-Based Analysis of Four Near-Synonymous English Verbs

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#### ABSTRACT

The differences that exist among near-synonyms seem to be a thorny issue for native and non-native speakers of English. This study aims to highlight the similarities and differences between four near-synonymous verbs: *investigate*, *explore*, *scrutinize*, and *examine*, with a focus on their dialectal variations, frequencies, genre distributions, and colligational patterns. Data were gathered from the Corpus of Contemporary American English (COCA) and the British National Corpus (BNC). The findings reveal that while these verbs are often considered near-synonyms, they are not fully interchangeable across contexts. *Explore* and *examine* have scored the highest frequencies across both corpora, especially in academic genres in American English. In contrast, British English exhibits more variation, with *investigate* and *explore* appearing more frequently in non-academic texts. Conversely, *scrutinize* has scored the lowest in both dialects and is primarily confined to academic contexts. Additionally, these verbs are seldom found in spoken genres. The analysis of colligational behavior (i.e., grammatical patterns) demonstrates that these verbs share many grammatical patterns, though subtle differences in their usage prevent complete interchangeability. The COCA provides a wider range of grammatical patterns than those in the BNC. These findings underscore the complexity of near-synonymous verbs and the importance of context in their usage. *Keywords:* Academic Terms; Corpora; COCA; BNC; Dialects; Genre; Teaching, Learning; Lexical Relations

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### 1. Introduction

Vocabulary learning is one of the pillars of mastering any language, serving as a key component for successful, comprehensive communication in which language users exchange their thoughts and feelings. This idea is supported by Zeeland and Schmitt<sup>[1]</sup>, who emphasized how the amount of vocabulary knowledge positively affects reading comprehension and listening comprehension. This suggests that a large set of vocabulary is considered a solid stepping stone to higher levels of fluency. Alsager and Milton<sup>[2]</sup> added that "a vocabulary knowledge threshold of 5000 and above is necessary for L2 learners to undertake international education; below this volume of vocabulary, they risk failure or academic hardship during their studies." This reinforces the idea that vocabulary is an essential component of communication, without which successful communication is impossible. Schmitt<sup>[3]</sup> reports that "lexical knowledge" is the backbone for both "communicative competence" and "second language acquisition." Similarly, Nation<sup>[4]</sup> stresses the interwoven relationship between "lexical repertoire" and "language use": one's vocabulary knowledge enhances language use, which in turn increases the individual's vocabulary repertoire.

Many scholars, including Nation<sup>[5]</sup>, highlight the importance of vocabulary acquisition due to its essential role in constructing spoken and written texts. Acquiring vocabulary contributes to all language skills-listening, writing, speaking, and reading-whether in English as a second or foreign language. Nunan<sup>[6]</sup> argues that developing a sufficient lexical repertoire is crucial for effective second language use. Without a wide set of vocabulary, learners will struggle to communicate comprehensibly, even after learning grammar and functions. However, near-synonyms present unique challenges. Schmitt<sup>[3]</sup>, Schmitt & Schmitt<sup>[7]</sup>, and Nation<sup>[4]</sup> point out that selecting the best word for specific contexts can be difficult, as words with similar meanings often carry nuanced differences in meaning, connotation, and usage. It is worth mentioning that near-synonyms as semantically related words are sometimes used when speakers cannot recall the exact word on spot[8]. Thus, they misuse the exact word.

Knowing the differences among near-synonymous words is of great use for linguists due to several reasons. Firstly, knowing the nuances of meaning and the collocational behavior is beneficial, especially with the existence of machine translation and natural language processing. To verbs-investigate, examine, scrutinize, and explore-to

elaborate, by knowing the semantic and syntactic differences among the four verbs under investigation, linguists can work to improve the accuracy of machine translation<sup>[9]</sup>. In her study, she stressed on the coexistence of human expertise and machine translation tools to enhance overall translation accuracy and fluency. The same ideas was emphasized by Khoury et al.<sup>[10]</sup>, who paid special attention to revise and post-edit translation works before the final submission, in which even choosing the best synonym is crucial and part of the translator's job. Therefore, understanding the distinctions among semantically related words produces a more nuanced and precise text. Secondly, recognizing dipartites among near-synonyms help language teachers and learners to understand and use such words correctly in their writing and speaking<sup>[11]</sup>. Thirdly, although the detailed analysis of nuanced lexical differences might often be beyond the scope of even advanced EFL learners, the findings can still offer insights relevant to curricula planning and resource development.

Laufer<sup>[12, 13]</sup> highlights that near-synonyms can be problematic since they cannot be used interchangeably in all contexts, given that absolute synonyms do not exist in any language<sup>[14]</sup>. These words often differ in connotation, formality, and semantic prosody<sup>[15]</sup> or exhibit semantic preferences<sup>[16]</sup>. Even native speakers encounter difficulties articulating these subtle distinctions, although they use nearsynonyms correctly in practice<sup>[17, 18]</sup>. For this reason, tools such as corpus linguistics are invaluable, as they enable researchers to study these differences using naturally occurring data.

According to McEnery and Wilson<sup>[19]</sup>, corpus linguistics is a methodology that involves the use of computerized, naturally occurring texts-either written or transcribed utterances-for linguistic analysis. This approach provides new insights into language structure, including grammatical patterns and word behavior. Through corpora, language users can empirically explore collocations, syntactic patterns and semantic preferences, resolving confusion between similar words. Since the existence of corpora and besides dictionaries, several corpus studies were conducted either by using ready corpora such as BNC, COCA and sometimes Noble Qur'an and Sunna as corpora cf.<sup>[20–23]</sup>.

This study examines a set of near-synonymous

analyze their frequency, genre distribution, and grammatical patterns across two major corpora: the British National Corpus (BNC) and the Corpus of Contemporary American English (COCA). Previous studies have relied on a single corpus, which limited the representativeness of their findings. In contrast, this study utilizes two corpora to account for variations in British and American English. Biber, Conrad, and Reppen<sup>[24]</sup> explain that corpora provide insights into word senses by examining their patterns and collocations. Bolinger<sup>[25]</sup> also noted that differences in grammatical structure correspond to differences in meaning, while Francis and Hunston<sup>[26]</sup> emphasized the connection between patterns and meaning.

The results of this study may have significant implications not only for linguists, translators and lexicographers but also for curriculum designers and EFL teachers. Although the level of elaboration in this research may exceed the practical needs of EFL learners, understanding the nuances of near-synonyms could aid in designing better teaching materials. The findings may also enrich linguistic research on lexical semantics by shedding light on how similar verbs behave in different varieties of English. Additionally, the results may be valuable for lexicographers and curriculum planners in refining language resources and instructional strategies. Moreover, the results might benefit those specialized in computational linguistics, machine translation and natural language processing.

This study seeks to answer the following questions:

- 1. Which of the following verbs—*investigate, examine, scrutinize,* and *explore*—is the most frequently used in the BNC and COCA?
- 2. In which genres are these four verbs used across the BNC and COCA?
- 3. According to the BNC and COCA, what grammatical patterns (colligations) are associated with each of these verbs?

### 2. Theoretical Literature

### 2.1. Corpus Linguistics and Language Teaching

Corpus is "a collection of texts which is stored on some kind of digital medium and used by linguists to retrieve lin-

guistic items for research or by lexicographers for dictionarymaking<sup>[27]</sup>." Crystal<sup>[28]</sup> defined a corpus as a collection of linguistic data, either compiled as written text or transcription of recorded speech. Corpus linguistics is the "study of language in use through corpora" as reported by. One of the major advantages of corpora is speed and reliability as a user can investigate more words, phrases and structures and get more accurate frequencies per each. It is also beneficial when the intuition of native speakers fails.

Since grammar and vocabulary are not the only aspects of a language, scholars are now focusing on language in use. The main goal of corpus linguistics is to enable language users to compare various words that are counted as synonyms within a context. Consequently, the importance of corpus is highlighted through the available features it provides. That is to say, a corpus allows teachers and students to explore the patterns of lexicons, grammar, semantics, pragmatics and textual features.

Moreover, the behavior of the abovementioned features has been the subject of new research due to corpus methodologies, as is already indicated. It is always feasible to learn new things about language since corpus linguistics bases itself on the idea that language changes depending on context, location, and time.

Another benefit of corpus-based approaches is that their analysis is always based on empirical rather than elicited data. Since many native speakers rely heavily on their intuition about language and which is often wrong<sup>[29]</sup>, the formation of corpora has been a must. Teachers cannot rely on the native speakers' knowledge, intuition and performances to come up with accurate and complete descriptions of the language. To illustrate, if a native speaker of Arabic was asked to tell the differences between 'sana' and '?æm' which both mean 'year', they would not be able to tell these differences even though they can use them correctly in all contexts. Therefore, it would be helpful to resort to naturally occurring data along with native speakers' intuitions and introspections.

#### 2.2. Criteria for Distinguishing Near-Synonyms

Many linguists believe that it is important to set specific criteria to distinguish near-synonymous words. Cruse<sup>[14]</sup>, Palmer<sup>[30]</sup>, Jackson & Amvela<sup>[15]</sup> and Phoocharoensil<sup>[16]</sup> rely on the following criteria to distinguish near-synonyms: degree of formality, dialect, connotation, collocational be-

haviour and semantic preference. In addition, Palmer<sup>[30]</sup> and Cruse<sup>[14]</sup> highlight the clear effect of the stylistic variations among different geographical areas on the use of nearsynonyms. They have also coined the terms intranational to represent different dialects within the same country in different regions, and international to represent a language that is spoken among different countries as English. Kachru<sup>[31]</sup> and Widdowson<sup>[32]</sup> elaborate on the concept of international by providing some examples in American and British English; for instance, biscuit (Br.) and cookies (Amr.), chemist (Br.) and drugstore (Amr.).

Moreover, Cruse<sup>[14]</sup> as well as Jackson & Amvela<sup>[15]</sup> identify the degree of formality as another stylistic variation to distinguish near-synonyms. Generally, some words tend to occur in formal contexts while other words tend to occur in informal ones. For instance, Phoocharoensil<sup>[16]</sup> differentiates between *error*, *fault* and *mistake* as error commonly appears in formal contexts while the two other nouns tend to appear in informal contexts.

Another criterion to distinguish near-synonyms raised by Cruse<sup>[14]</sup> is the notion of connotation, which is also referred to as expressive variations. Words usually carry either positive, neutral, or negative connotations. Edmonds & Hirst<sup>[17]</sup> relate to this idea by referring to the adjectives *skinny*, *slim/slender*, or *thin. Skinny* is more likely used to represent negative connotations, while *slim* and *slender* are used with positive connotations. Similarly, *thin* tends to express a neutral attitude (p. 110).

Moreover, the criterion of the collocational patterns is also used to distinguish near-synonymous words<sup>[14, 16]</sup>. The term collocation is defined by Lewis<sup>[33]</sup> as words that tend to co-occur together in all contexts. However, certain collocational restrictions organize collocational behaviour<sup>[30]</sup>. Edmonds and Hirst<sup>[17]</sup> differentiate between the synonymous nouns task and job as one can say: "a daunting task", but not "a daunting job." It is worth mentioning that the concept of semantic preference is strictly associated with the notion of collocations; In other words, Flowerdew<sup>[34]</sup> states that the semantic environment of words affects the words' occurrences. For instance, the near-synonymous verbs die and pass away differ in their semantic preference; the use of the verb pass away is limited to people, while die can be used to talk about people, animals, and plants. Cruse<sup>[14]</sup>, in his book "Lexical Semantics", highlighted the subtle differences found between the three synonymous nouns, namely sofa, settee, and couch. Sofa tends to be more formal and is widely used in British English, unlike couch which is more commonly used in American English. As for the noun settee, it is an oldfashioned word that had been widely used in British English. Therefore, these synonymous nouns can be differentiated through their degree of formality and dialectical differences. To sum up, it is important to design thorough criteria to distinguish near-synonyms as they cannot be used alternatively in all contexts.

#### 2.3. Empirical Literature on Near-Synonymous Verbs

Chung<sup>[35]</sup> studied two near-synonymous verbs in English, namely create and produce. The researcher highlighted the similarities and differences between them by examining the following four semantic features i.e., 'property,' 'creativity,' 'quantity,' and 'concreteness'. To this end, the data were collected from two American corpora namely, the Brown Corpus and the Frown Corpus along with AntConc. Then the results were compared to the BNC with the help of the Sketch Engine (SkE). The results showed that these two verbs showed the tendency to occur mostly in the bare infinitive form and the -ed form. The corpus data also demonstrated that the two verbs share two overlapping senses i.e., "bring into existence/cause to happen, occur, or exist" and "create or manufacture a man-made product". Results related to selectional restrictions showed that create tends to appear more with abstract objects if compared to produce. The verb create appears with objects of fewer quantities and possesses a possibility of employing creativity during the creation. On the contrary, produce is followed by objects produced in larger and greater quantities with very low creativity.

Phitayakorn<sup>[36]</sup> conducted a thorough study on the similarities and differences between three near-synonymous verbs, i.e., *advise, recommend*, and *suggest* taking into consideration the grammatical patterns and collocational use within British English. He relied on the Longman Dictionary of Contemporary English (LDOCE) along with the BNC, taking 450 concordance lines, for gathering the required data. However, some synonymous verbs had similar noun collocates such as (*advise* and *recommend*, *suggest* and *recommend*). Therefore, they are interchangeable in some contexts. In addition, the study concluded that relying on English dictionaries is not enough to highlight the similarities and differences between near-synonyms due to the fact that dictionaries neither provide all the possible patterns nor all possible collocates. Hence, concordance lines fill in these gaps and should be advocated to provide supplementary patterns.

GU<sup>[37]</sup> differentiated between two near-synonymous verbs gain and obtain with special emphasis on their genre, colligation, collocation, and semantic prosody. The data of the study were derived and analyzed through SkE, BNC Web, and Just the Word in addition to the Oxford Dictionary. The findings of the study proved that obtain is used more frequently in pure and practical scientific genres in addition to its high frequencies in law and business genres. It collocates mostly with concrete nouns. Additionally, the verb obtain has a high presence in the passive voice structure along with a preposition. Regarding the semantic prosody, obtain has neutral or mixed semantic prosody. In contrast, the verb gain collocates with abstract nouns with positive semantic prosody. Additionally, gain is more often found in different genres such as commerce, economy, politics, and social science.

Li<sup>[38]</sup> examined the frequencies of *preserve* and *conserve* in addition to their colligation, collocation, semantic prosody, and semantic preference. The data were gathered from the BNC and the SkE software was used for the analysis. The study revealed that *preserve* has higher frequencies than *conserve*. Moreover, both verbs tend to be used more often in written genres than in spoken ones. In terms of colligation, both verbs are more likely to be used as transitive verbs, but *preserve* has richer and more flexible colligation patterns than *conserve*. With regard to the collocational behavior, each tends to collocate with different words, but some words can collocate with both verbs such as well, either, poorly, and absolutely. Additionally, the overall semantic prosody of *preserve* and *conserve* seems to be either positive or neutral with very little presence of negative semantic prosody.

Phoocharoensil<sup>[16]</sup> explored the collocational behavior of *persist* and *persevere* as well as their distribution among genres, semantic prosody and semantic preference. The data were retrieved from COCA. The findings indicated that both verbs have scored the highest frequency in academic genres and webpages, respectively. Despite sharing the central meaning, both verbs have a distinct set of collocations. In terms of semantic prosody, while *persist* tends to co-occur with words with negative connotations mainly with unsatisfying situations, *persevere* tends to co-occur with words that have positive connotations with an implication of strong determination and well to accomplish difficult tasks. In addition to this, the study suggested that dictionaries lack certain aspects that are provided in the corpus. For instance, dictionaries deal with *persevere* as an intransitive verb, while COCA proved that the same verb can also be used as a transitive verb.

Séguin<sup>[39]</sup> studied the differences between *explain* and *clarify*. The study specified the 'spoken' and 'written' genres focusing on the speaker's gender and age group along with the collocation and colligation frequencies. The data were collected from the BNC and Google Books corpus. The findings showed that *explain* has scored higher frequencies than *clarify*. Additionally, the verb *explain* is used frequently to report speeches while *clarify* is used in some rare contexts with the meaning of making a liquid clear. On the other hand, when the verbs appear in contexts of understanding, *explain* appears frequently as an object in complex clauses. The verb *clarify*, on the other hand, is frequently used as an object in simple clauses. Both verbs refer to abstract elements including general situations (problem, issue), purpose (role, objective), or mental elements (position).

To examine the effectiveness of corpora in articulating the distinctions between near-synonyms, Song<sup>[40]</sup> studied the differences between damage and destroy as two nearsynonyms. Specifically, the researcher investigated them in terms of their frequencies, distribution among different genres, colligation, and collocation in addition to the differences in their meanings and usage. The data were retrieved from the BNC along with the SkE as a corpus tool. The results proved that *destroy* is used more frequently than *damage* in both written and spoken contexts. With regard to collocational behavior, damage collocates with lexical words relevant to the concepts of the human body or physical health, while destroy collocates with other words relevant to the concept of military affairs along with thoughts and beliefs. Results related to colligation showed that both verbs collocate with object nouns. Unlike destroy, damage is more frequently used with adverbs as modifiers. Semantically, the core meanings of damage and destroy are different. For instance, damage is more often used to describe something that is no longer used

as before but can be repaired or recovered. In contrast, the core meaning of *destroy* offers more senses for something that no longer exists and hence cannot be used anymore.

Xi<sup>[41]</sup> highlights the importance of employing corpusbased language learning when teaching EFL students. In his study, he used COCA to distinguish between two nearsynonymous verbs i.e., *declare* and *announce* in terms of their collocational behavior and their semantic prosody. The study showed that *declare* tends to co-occur mostly with nouns, which strongly hold negative prosodic features, for instance "declare emergency". In contrast, *announce* seems to be accompanied by words that most likely have strong neutral prosodic features as in "announce an intention".

Kruawong and Phoocharoensil<sup>[42]</sup> examined the collocational behavior and the distribution of *teach*, *educate*, and *instruct* among different genres. To help achieve the objectives, the data were collected from the LDOCE and COCA with special emphasis on the top-forty noun collocates. Concerning their use, the findings showed that *teach* has the highest presence in the whole corpus. Moreover, the data reflected that three near-synonymous verbs are favored in formal contexts rather than in spoken discourses. In other words, the three verbs have a low presence in informal genres such as spoken, fiction and TV/Movie.

Similarly, Sittironnarit et al.<sup>[43]</sup> studied the similarities and differences between the two synonymous verbs obtain and acquire in terms of their genres, collocational behavior, semantic prosody, semantic preference and pedagogical implications. The researchers relied on the COCA as the main source for this study. The findings revealed that both verbs tend to occur in written genres and thus they have a high degree of formality, yet obtain is more common. Additionally, each verb has its unique list of noun collocates. For instance, acquire tends to collocate with nouns such as 'acquire skill', 'acquire knowledge', etc., while obtain tends to collocate with nouns as 'obtain information', 'obtain data', etc. In contrast, both verbs seem to share some noun collocates, though they cannot be used interchangeably in all contexts. Therefore, *acquire* appears to co-occur with words that have the meaning of information or resource, in the context of supplying something. On the other hand, obtain is more likely to co-occur with nouns with a wider range of words.

Alanazi<sup>[44]</sup> explored the similarities and differences between *affect* and *impact* in terms of their "lexical collocates,

colligational profile, and semantic prosody". Specifically, the researcher examined the frequencies per each verb, their adverbial collocates, nominal subject collocates plus nominal object collocates. The data were drawn from the written part of the BNC along with the SkE as a corpus manager and text analysis software. The findings revealed that both affect and impact were mainly used with abstract entities in the subject position as well as abstract and concrete object collocates. However, there are nuanced differences between the two verbs. First, affect seems to appear with more collocates in the written genres in the BNC corpus. Second, affect appears to collocate with adverbs that hold negative connotations and nominal subjects. In contrast, the corpus data revealed that *impact* tends to be used in more restricted contexts. In addition, the data revealed that there are some variations with regard to the preference of the syntactic position of adverbials. While impact tends to collocate with post-modifying adverbs, affect is more likely to collocate with pre-modifying adverbials.

Niwesworakarn et al.<sup>[45]</sup> studied the degree of formality and the collocational behavior of three near-synonymous verbs viz., join, participate, and attend. To this end, the data were gathered from the COCA. To examine the collocational behavior, the top thirty collocates with the highest mutual information (MI) scores were examined. The results revealed that *participate* is mostly used in formal contexts since it appears mostly in academic genres. In a similar fashion, attend has the same degree of formality as participate and they are both frequently used in newspapers. In contrast, the verb join records the highest frequencies in informal contexts i.e. spoken, television, and movie subtitles. Moreover, participate and attend share a set of noun collocates and their noun collocates can overlap. Therefore, they are more synonymous in terms of semantic preference. However, join tends to be the least synonymous across these three verbs as it has its own set of noun collocates.

To sum up, the reviewed literature seems to be divided into two groups. The first group focuses on different nearsynonymous verbs based on a set of factors with a special focus on one variety either British as in<sup>[38, 40, 44]</sup> or American )see<sup>[13, 31, 43, 45]</sup>. The second group addressed one dialect i.e., one corpus and one dictionary like the ones conducted by<sup>[36, 37, 42]</sup>. Therefore, the researchers argue that the reported literature suffers from certain limitations such as the focus on one dialect by resorting to a single corpus in addition to ignoring the dictionaries along with corpora.

### 3. Study Design

This study aims to find out the similarities and differences among the following four synonymous verbs, namely investigate, examine, scrutinize and explore. These four verbs are considered as near- synonyms since they share their central meaning of "studying something carefully". Although there are more words that are near-synonyms as well such as test, study, probe, consider, etc. The focus was on these four due to the fact that these four verbs are more frequently used in academic genres and academic texts than the other verbs. Moreover, the four verbs have not yet been studied through the lens of the BNC and COCA in this manner.

The researchers resorted to two main sources, namely the COCA and BNC. COCA is a freely accessible, balanced searchable corpus. It is the most reliable corpus of American English as it is the largest of all. The American corpus accommodates more than a billion words in 485,202 texts (from 1990-2019). These texts are evenly derived from eight different genres, namely spoken, fiction, popular magazines, newspapers, academic texts, TV and movie subtitles, blogs, and other web pages. Additionally, each of these sections has other sub-sections. The British National Corpus (BNC) is another freely, balanced searchable source for archival texts which accommodates 100 million words of wide genres of texts i.e., spoken, fiction, magazines, newspapers, and academic. It was composed by the Oxford University Press in the 1980s- early 1990s. All corpora offer the words under investigation in contexts along with their genres, collocational behavior, and colligational patterns. It is worth mentioning that all worldwide mostly used corpora are provided with a user-friendly interface that facilitates the usage of all features. According to the web interface, there are seven tabs, namely List, Chart, Word, Browse, Collocates, Compare, and KWIC to ease the process of searching. Each tab offers a different command.

Since the two corpora are different in size in which the COCA is larger than BNC, the COCA frequencies must be normalized. To normalize the frequencies, the researchers divided the absolute frequencies of each verb by the number of words in the corpus i.e., COCA, then the result is multiplied by one million as illustrated in the following equation.

> NormalizedFr.PM = [AbsoluteFr.ofaword/ no.ofwordsinacorpus(100000000) \* 1000000]

### 4. Results and Discussion

### 4.1. Results and Discussion Related to Question Number One

To answer the first question, the researchers visited the website of the English corpora https://www.english-corpo ra.org//. Having chosen the COCA corpus, the researchers used the List command to search for the frequencies of each verb in its present forms viz., investigate and investigates. Then the results were normalized. The same procedures were followed for the BNC. The results of the two corpora are listed in Table 1 below.

NO.	Verb		COCA		BNC			
NO.	verb	Absolute Fr.	Total Fr.	Fr. PM	Absolute Fr.	Total Fr.	Fr. PM	
1	Explore	27968	33762	33.76	2211	2547	25.47	
1	Explores	5794	55702	33.70	336	2347	23.47	
2	Examine	26448	32910	32.91	3620	4306	43.06	
2	Examines	6462	52910	52.91	686	4300	45.00	
3	Investigate	20095	22072	22.07	2303	2520	25.2	
3	Investigates	1977	22072	22.07	217	2320	23.2	
4	Scrutinize	1205	1399	1.40	49	55	0.55	
4	Scrutinizes	194	1399	1.40	6	55	0.55	

Table 1. Frequencies of the Four Synonymous Verbs in COCA and BNC.

Fr.: Frequency; PM: Per Million.

four synonymous verbs in the COCA and BNC. The results scored the highest frequency of 33.76 PM. They also show

**Table 1** presents the results of the frequencies of the illustrate that the verb *explore(s)* with its present forms has

that *examine(s)* have nearly similar highest frequency scoring about 32.91 PM. The verb *investigate(s)* has its own presence in the COCA with a total occurrence of 22.07 PM, while the verb *scrutinize(s)* has recorded the lowest frequency among the four verbs scoring about 1.40 PM.

The results also show that *examine(s)* has the highest frequency in the BNC scoring about 43.06 PM. The corpus data also show that both *explore(s)* and *investigate(s)* have scored very similar frequencies of 25.47 PM and 25.2 PM, respectively. As for *scrutinize(s)*, this verb has the lowest frequency of 0.55 PM in the British dialect.

The overall results show that there are some similarities and differences in terms of the frequencies of the four synonymous verbs in the COCA and BNC. To elaborate, *examine(s)* is more frequently used in British English dialect than in the American English. As for the verb *explore(s)*, the data showed that this verb is less frequently used in the BNC than in the COCA. Interestingly, *investigate(s)* has scored the third rank with some variations in its frequencies. Seemingly, *scrutinize(s)* has registered the lowest frequency in both dialects.

This question has provided us with the frequencies of the four synonymous verbs in both corpora, namely COCA and BNC. The findings revealed that the verbs *examine(s)* and *explore(s)* have scored the highest frequencies i.e., the first two ranks in the two corpora with some variation in their occurrences. To elaborate, *explore(s)* has scored 33.76 PM in COCA and 25.47 PM in BNC. As for the *examine*, it has appeared 32.91 PM in COCA and 43.06 PM in BNC. Apparently, the corpus data unveiled that *investigate(s)* has scored nearly similar frequencies of 22.07 PM in COCA and 25.2 PM in BNC occupying the third rank in both dialects. Moreover, the findings in both corpora have shown that the verb *scrutinize(s)* has recorded the lowest frequency among the four synonymous verbs scoring about 1.40 PM in COCA and 0.55 PM in BNC.

There are various possible explanations for these results. Firstly, the words' etymology that deals with the origins and history of the words. It is possible that some verbs emerged before the other verbs. Therefore, it is worth mentioning that the earlier verbs found, the higher frequencies they have. For instance, according to https://etymonline.com, the four verbs

were originally borrowed from Latin. And it is a well-known fact English has borrowed extensively from Latin during different periods of time in different fields like legal, scientific and academic ones. By tracing the etymology, the first appearance and usage of these four verbs, the findings showed that the verb *examine(s)* was first used in the 14th century. Regarding the verb *explore(s)*, this was firstly known and used in the 16th century. Additionally, the verb scrutinize(s) has been first used in the 17th century with the current meaning of "to examine closely". Consequently, the earlier the verb appears, the more frequencies it scores. This justification applies to the four verbs except for *investigate(s)*, which has lower frequencies than *explore(s)* although *investigate(s)* appeared earlier. What makes explore much more frequent than investigate although the latter appeared earlier is the fact that explore has a broader meaning with multiple senses due to its literal and figurative usage. For instance, besides using this verb to refer to delving deeper into a certain topic allowing a wide range of ideas and explanations to appear, this verb is used to refer to looking around your environment and trying different new things. As for investigate, this verb refers to the structured, methodological search for finding answers/solutions for certain queries/problems. This was also evident by its highest appearance in the academic field according to its distribution among different genres.

Secondly, verbs tend to score higher frequencies if they have undergone a semantic shift in which the meaning and usage of certain words have changed over time in response to different societal, cultural as well as technological desires in the form of narrowing, broadening, metaphor, etc. For instance, in COCA, the verb examine(s) was borrowed from Anglo-French examiner, from Latin examinare to mean " to put someone to question in regard to knowledge, competence, skill etc.". Then it has been used in criminal contexts. Over time, its usage might have been broadened to be used in educational and academic fields related to conducting research papers, articles, etc. On the contrary, the verb *scrutinize(s)* in both corpora has scored the lowest frequency since its usage might not have been broadened since its existence in the current sense of "examining carefully". Another reason behind the low frequencies of *scrutinize(s)* might be due to its usage in formal contexts of academies, news and magazines.

### 4.2. Results and Discussion Related to Question Number Two

To answer the second question, the researchers again visited https://corpus.byu.edu and relied on both COCA and BNC. The researchers then chose the Chart command to view the distribution of the four synonymous verbs in both COCA and BNC among different genres namely, blog, web, TV/M, spoken, fiction, magazine, news and academic genres. Again, since the two corpora are different in size, the frequencies were normalized per million and the results were displayed in **Table 2**. It is worth mentioning that some genres exist in COCA like blog, web and TV and media, but do not exist in BNC and visa versa.

The corpus data show that *investigate(s)* is used more often in the academic genre with a frequency of 56.35 PM. Additionally, it shows that the verb has also a quite good appearance in both the spoken and website genres with occurrences of 34.74 and 30.04 PM, respectively. While for its presence among news, magazines, blogs and TV/Media, it has an average frequency as it is used but less frequently than other genres. However, it is clear that the verb has the lowest frequency of 10.64 PM in fictional works.

Data extracted from the table have shown that *explore(s)* has a similar behavior to the previous verb in terms of the highest frequency in the academic genres where it has registered a frequency of 106.85 PM. Furthermore, the results show that this verb is also more frequently used in magazines, websites, blogs and news with some variation in their frequencies 58.82, 53.2, 41.6, respectively. On the contrary, they illustrate that the verb is less frequently used in TV/Media, fictional areas as well as spoken genres.

The corpus data illustrate that *examine(s)* has a very similar behavior to the two previous ones as they all have the highest frequencies in the academic genre. However, the results illustrate that there is a huge gap between the academic genre and the rest as they all have less frequency. On websites, magazines, blogs and news, the verb is often seen, while on TV/Media, the verb is rarely found scoring a frequency of 10.32 PM.

Regarding the behavior of *scrutinize(s)*, the results show that this verb, among all genres, has the least number of total frequencies. The verb has a quite different behavior since it scores the highest frequency in magazines followed by the academic genres. Moreover, the verb has very little appearance in areas like news, fiction, websites, and blogs. However, it is less frequently found in TV/media and spoken genres scoring about 0.28 and 0.98 PM, respectively.

With regard to the British dialect in which the BNC is divided into spoken, fiction, magazine, newspaper, non-academic, academic and miscellaneous, **Table 2** shows that *investigate(s)* tends to appear more frequently in non-academic genres registering about 8.78 PM followed by the academic texts with a frequency of 6.02 PM. However, the two forms appear less frequently in newspapers, fiction, magazines and spoken genres scoring frequencies of 2.62, 1.75, 1.41, 0.69 PM, respectively.

The verb *explore(s)* scores its highest frequency in different miscellaneous fields such as school and university essays, advertisements, emails, and commerce, just to mention a few. However, the behavior of *explore(s)* is a bit similar to *investigate(s)* in terms of its high frequencies in the academic genres and the non-academic ones. In addition, it is also similar in the low frequency of the appearances of the verb in magazines, newspapers, fiction and spoken genres.

Regarding the behavior of the verb *examine(s)*, **Table 2** illustrates its distribution among different genres in BNC which is still similar to *investigate(s)* and *explore(s)* in terms of their highest frequencies in the academic, non-academic and miscellaneous genres. Moreover, the distribution of the verb in fictional areas, newspapers, magazines and spoken genres records the least frequencies.

The behavior of the verb *scrutinize(s)* is thoroughly illustrated in **Table 2** showing very low frequencies in all genres. Again, there are some similarities yet with some differences between *scrutinize(s)* and the three previous ones. The distribution of the verb in the academic and non-academic genres records the highest frequencies of 0.17 and 0.16 PM. However, the verb tends to appear in fictional genres more often than the previous verbs. Further, it is worth mentioning that the verb is completely absent in newspapers and has very low frequencies in magazines and spoken genres scoring 0.01 PM.

The findings of this question have presented how the four synonymous verbs under investigation are differently distributed among several genres in COCA and BNC. Although some of these results have some similarities, they still differ. The COCA results have revealed that all the verbs tend

Genre	/	Blog	Web	TV/M	Spok	en	Ficti	on	Maga	azine	Nev	vs	Acad	emic	Non- Academic	Miscellaneous
	Verb	COCA	COCA	COCA	COCA	BNC	COCA	BNC	COCA	BNC	COCA	BNC	COCA	BNC	BNC	BNC
Investigate(s)		20.00	30.04	16.21	34.74	0.69	10.64	1.75	24.11	1.41	28.55	2.62	56.35	6.02	8.78	4.43
Explore		41.6	53.2	12.43	17.3	0.89	13.37	1.60	58.82	2.55	34.05	1.22	106.85	5.44	6.81	6.96
Examine(s)		25.07	42.41	10.32	18.09	0.79	23.06	2.73	30.2	1.70	21.59	2.51	158.42	13.05	11.43	10.85
Scrutinize(s)		1.3	1.6	0.28	0.98	0.01	1.53	0.11	2.99	0.01	2.45	0.00	2.87	0.17	0.16	0.09

Table 2. Frequencies of the Four Verbs in Different Genres in COCA and BNC.

to be mostly used in academic genres except for scrutinize, which appears mostly in magazines. It is worth mentioning that these two genres are written rather than spoken. This shows that some verbs are more frequent than other verbs in written language. This result is compatible with those of Alanazi<sup>[44]</sup> (2023), who stated that the verb affect appears with more collocates in the written genres. It also duplicates the results of those of Sittironnarit et al.<sup>[43]</sup>, who proved that both "obtain" and "acquire" tend to occur in written genres and thus they have a high degree of formality. This finding is also in agreement with those of Li<sup>[38]</sup>, who also found out that the verbs preserve and conserve are used more often in written genres than in spoken ones. Moreover, this result is in parallel with those of GU<sup>[37]</sup>, who found out that obtain is used more frequently in pure and practical scientific genres in addition to its high frequencies in law and business genres.

The high occurrences of these three verbs in academic texts might be due to the fact that academic texts usually aim at presenting research objectives in different sections of research papers and texts, thus registering higher frequencies. Such academic texts also aim at analyzing information as well as developing knowledge. Therefore, such verbs carry the meaning of systematic structured inquiry. As for the high frequency of scrutinize in magazines, this can be attributed to the fact that this verb is formal and magazines usually present topics that are formal such as reviews, criticism and articles by professionals. Therefore, the verb scrutinize has its place in this formal context. Since these verbs tend to appear in formal contexts, they are natural to appear with low frequencies in fiction. Another point is that academic and scholarly texts are primarily meant to inform readers, not to amuse them. Therefore, such verbs do not have a presence in fiction. Furthermore, these academic papers are typically impersonal rather than subjective. This indicates that the information is typically the authors' primary concern. Furthermore, an accurate description of facts and numbers without the addition of personal commentary is typically required while writing research papers.

investigate(s) and explore(s) tend to appear more in nonacademic contexts unlike *examine(s)* and *scrutinize(s)* which appear mostly in academic contexts. This means that the British might use these verbs in everyday language for certain contexts related to informal inquiries that involve a type of mystery. This justifies the influence of language users on changing the use of words from informal to formal and vice versa.

### 4.3. Results and Discussion Related to Question Number Three

To assist in answering this query, the researchers resorted to the two corpora. The researchers visited https: //corpus.byu.edu and relied on the KWIC Command to look up the verbs under investigation in their actual context after choosing the required corpus. The researchers typed the verb in the required tab and then chose the number of words to the right /left of the node word, which was two. Additionally, the researchers relied on 1000 concordance lines for accurate findings noting that this interface offers 100, 200, 500, or 1000 concordance lines. In order to determine the patterns of the verb, the researchers in this research selected two words that are located to the right of the node word. As a consequence, the outcomes were presented according to the first two words on the right and vice versa. Then the results were presented in two separate tables focusing on left and right nouns/adverbs that collocate with the four verbs.

### 4.3.1. Findings Related to the Colligation of the Four Verbs in COCA

In this section, the researcher highlighted the grammatical patterns of each verb in COCA. Furthermore, the researchers relied on two symbols to ease the process of presenting the findings. First, (+) if the pattern referred to exists for the verb. Second, (-) to reflect the absence of the pattern. Table 3 presents the results of the colligational behavior of the four verbs in American dialect. It shows the syntactic categories of the words that follow/precede the node words The findings in BNC vary. For example, the verbs i.e., *investigate(s), examine(s), explore(s)* and *scrutinize(s)*.

No	Verb Patterns	Investigate(s)	Explore(s)	Scrutinize(s)	Examine(s)
1	*Verb + NP/N	+	+	+	+
2	*Verb + conj. + verb	+	+	-	+
3	*Verb + prep.	+	+	-	+
4	*Verb + adv.	+	+	+	+
5	Verb + and + * verb	+	+	+	+
6	NP + * verb	+	+	+	+
7	Verb (modal) + * verb	+	+	+	+
8	Prep. $(to) + * verb$	+	+	+	+
9	That + * verb	+	+	+	+
10	Conj. (or) + * verb	+	+	+	+
11	Conj. (but) + *verb	+	+	-	+
12	Adv.+ *verb	+	+	+	+

Table 3. The Colligational Behavior of the Four Verbs in COCA.

(\*) the use of the asterisk refers to any of the verbs under investigation.

Adv.: adverb; Prep.: Preposition; Conj.: Conjunction.

The results revealed that the overall patterns of these verbs are divided into twelve main patterns, each of which has its own sub-divisions.

**Table 3** gives a close picture of the patterns of the four verbs in COCA. As the Table indicates, the four verbs under investigation syntactically show twelve different patterns, namely "\*verb +a noun phrase or a noun", "\*verb + conjunction + verb", "\*verb + preposition" and "\*verb + adverb", "verb + and + \*verb", "a noun phrase + \*verb", "verb (modal) + \*verb", "conjunction (or) + \*verb", and "preposition (to) + \*verb ", "that + \*verb", "conjunction (but)/(or) + \*verb" and "Adverb + \*verb". The corpus-based data show that all of the four verbs share these patterns but with some differences in the number of occurrences. However, the verb scrutinize(s) seems to have different colligational behavior. The following paragraphs present a detailed description of these grammatical categories (See **Appendix A** for examples from the corpora).

#### Pattern (1): \* Verb + NP/N

**Table 3** shows that all verbs under investigation tend to be followed by noun phrases/nouns as they are all transitive verbs, which require an object. It is worth mentioning that a noun phrase might be an article like '*a/an/the*' followed by a noun or any of the determiners such as '*this, that, those, these*' followed by a noun. Additionally, adjectives plus nouns form a noun phrase as well. With regard to nouns, object pronouns can replace any noun and therefore belong to this category.

As the analyzed data indicates, the four synonymous verbs *investigate(s)*, *explore(s)*, *scrutinize(s)*, and *examine(s)* 

appear with nouns or noun phrases. As for the nouns, different types of singular and plural nouns appear adjacently with the verbs under investigation such as *differences* and *allegations*. Different noun phrases appear with these verbs such as *the effect*, *the relationship*, *the lifestyle*, *a complaint* and *a new scientific frontier*. Another pattern that falls under the same umbrella of NPs is the use of an "article+adjective+noun" as seen in *a personal case* and *a new life*. The use of "article+adjective+noun" has a higher presence among other patterns. Finally, possessive pronouns have their role in identifying the nouns they appear with. Thus, the pattern of a possessive pronoun plus a noun has appeared with the verbs under investigation as exemplified in *my face*, *my claims* and *my work*.

#### Pattern (2): \*Verb + conjunction + verb

The corpus data showed that *investigate(s)*, *explore(s)* and *examine(s)* appear in combination with a conjunction like "and" followed by another transitive verb i.e., *analyze*, *determine*, *resolves*, *evaluates*, *rejects*, *describe*, *see*, etc. Apparently, what is common among these verbs that appear after the conjunction is the fact that they all seek to gather more information that leads to judgment based on the information gathered. Unlike other verbs, *scrutinize(s)* has no presence in such a pattern. To clarify, *scrutinize(s)* has registered a zero occurrence in both forms.

#### Pattern (3): \*Verb + preposition

The concordance data indicate that *investigate(s)*, *explore(s)*, and *examine(s)* can be followed by prepositions except for the verb *scrutinize(s)*. The findings revealed that the three verbs co-occur with prepositions but with very few

occurrences in the corpus. These verbs appear with a singleword preposition such as *in*, *on*, *for*, *through* and *from*. As for the preposition "*on*", only one verb appears with this preposition which is part of an idiomatic expression "on her own". This shows that even the colligational behavior of these verbs with prepositions is restricted to a number of prepositions.

#### Pattern (4): \*Verb + adverb

A typical behavior for any action verb is to be followed by an adverb if it needs further information. The analyzed data shows how the four verbs are followed by different adverbs such as how, *carefully, further, more* and *most*. They all give extra information by either asking about the manner in which the investigation, examination or exploration should be done. As for *carefully* and *further*, they both explain the intensity of the verb in which such actions related to these verbs should be done with keen care and attention.

#### Pattern (5): Verb + and + \* verb

This pattern combines two verbs using the conjunction "*and*". The verbs, in this pattern, tend to hold the meaning of "investigating about a certain matter" or "asking for further detailed explanation" along with the four verbs under investigation.

#### Pattern (6): NP + \* verb

Table 3 below presents another pattern that is found in COCA for nouns or noun phrases (NP) that do precede the four node verbs. It is worth mentioning that NPs consist of various kinds such as a subject pronoun as "we" and "he", an adjective that is followed by a noun as "documentary account", an article followed by a noun as "the book", a determiner followed by a noun as "this article", etc. As referred to previously, such contexts and the existence of such nouns or NPs are to seek further investigation regarding a specific topic. Furthermore, looking closely at these nouns and NPs, one can detect that such nouns/NPs scored the highest frequencies of the words that tend to co-occur with any of these node words as referred to in the previous question. The corpus data show that these nouns or NPs refer to human or non-human subjects, which exemplifies the metaphorical usage of these verbs in some contexts.

#### Pattern (7): Verb (modal) + \* verb

The usage of any modal verb plus the verbs under in- with verbs.

vestigation is another different pattern that appears in the American dialect. The overall results show that the different types of modal verbs such as *can, could, must, shall*, and *should* tend to precede the verbs to show obligation, possibility, ability, and prohibition. However, it is worth referring to the grammatical rule of English that suggests the absence of present simple verbs with the -s due to the fact that modals follow the base form of the verb. Hence, such patterns lack *investigate(s), explore(s), scrutinize(s)* and *examine(s)*.

#### Pattern (8): Preposition (to) + \* verb

This pattern refers to the appearance of the preposition (to) as part of the infinitive structure before the verbs under investigation. Again, the abovementioned grammatical rule regarding the infinitive form of the verb applies here as well. Therefore, the corpus data do not display any verb with the third person singular –s form.

#### Pattern (9): That + \* verb

The occurrence of the relative pronoun (that) has also its presence in the American dialect. The overall results show that the relative pronoun *that* is mostly preceded by a noun and is followed by any of the verbs under investigation. This pattern functions as an adjective clause modifying the nouns that appear before that. It is worth mentioning that this pattern modifies non-human nouns i.e., works, research, studies, agencies, program, etc.

#### Pattern (10): Conjunction (or) + \* verb

Conjunctions such as *or* can appear with verbs under investigation. The conjunction *or* is used to connect two verbs: *interview or investigate*, *discover or explore*.

#### Pattern (11): Conjunction (but) + \* verb

This pattern is peculiar to the conjunction but in combination with verbs. This pattern is only applicable to three verbs i.e., *investigate(s)*, *explores* and *examine(s)*. On the contrary, the verb *scrutinize(s)* does not follow this pattern. Looking closely at the concordance lines, it is clear that before the conjunction *but*, we can have various parts of speech such as an adjective as in individual, or a noun as in broadcasts, or a phrasal verb as in looks up. Thus, the conjunction but combines words with different types of speech with verbs.

#### Pattern (12): Adverb+ \*verb

The four verbs appear to be preceded or pre-modified by different types of adverbs. Some of these are adverbs of manner that describe the way that action should be performed such as "*actively*", "*closely*", "*adequately*" and "*carefully*", etc. Other adverbs are used to refer to time such as *then* and *now*.

# 4.3.2. Findings Related to the Colligation of the Four Verbs in BNC

**Table 4** shows the results of the colligational behavior of the four verbs in the British dialect. It again presents the syntactic categories of the words that follow/precede the node words i.e., *investigate(s)*, *examine(s)*, *explore(s)* and *scrutinize(s)*. The overall findings stated that the patterns of these four synonymous verbs are divided into eleven groups with different sub-divisions.

**Table 4** presents the patterns of the four verbs in BNC. The corpus-based data highlights the similarities and differences between the four synonymous verbs. As shown in the table above, the four synonymous verbs share almost all the grammatical patterns. The following paragraphs deliver clear detailed descriptions of the colligational behavior of the four verbs (See **Appendix B** for examples from the corpora).).

#### Pattern (1): \*Verb + NP/N

**Table 4** demonstrates that because all of the verbs under examination are transitive, they need an object. Therefore, they are typically followed by noun phrases or nouns. As mentioned above, it is important to note that a noun phrase can consist of an article like "a/an/the", or any of the determiners "this, that, those, these," followed by a noun. Adjectives and nouns together also form a noun phrase. Object pronouns fall into this group because they can take replace of any noun.

Regarding the nouns, several kinds of both singular and plural nouns coexist with the verbs that are being studied such as *language* and *aspects*. Different noun phrases appear with these verbs such as *the causes, the mystery,* and *a crime*. Another pattern that falls under the same umbrella of NPs is the use of an "*article+adjective+noun*" as seen *in a rich world* and *a small number*. Again, the use of "*article+adjective+noun*" has a greater frequency in comparison to other patterns. Finally, the use of the possessive pronouns attached to nouns is another pattern for these verbs as exemplified in

#### my understanding.

#### Pattern (2): \*Verb + conjunction + verb

The concordance lines analyzed data illustrate the grammatical behavior of the verbs under investigation in the British dialect. The corpus data demonstrated that *investigate(s)*, *explore(s)*, *scrutinize(s)* and *examine(s)* occur in connection with another transitive verb, such as *develop*, *discover*, *resolve*, *redesign*, *analyze*, *prepare*, *explain*, *responds*, etc., after a conjunction such as "and." It seems that all of these verbs that come after the conjunction have the intention of acquiring further knowledge in order to make a decision based on that information.

#### Pattern (3): \*Verb + preposition

The four verbs *investigate(s)*, *explore(s)*, *examine(s)* and *scrutinize(s)* tend to appear with prepositional words rather than phrases as in COCA such as: *in*, *into*, *by*, and *at*. Again, as found in COCA, the preposition 'on' fulfills a part of idiomatic expressions as "on your own". Therefore, this pattern is not really used.

#### Pattern (4): \*Verb + adverb

This pattern is very important as all verbs can be followed by adverbs to be further described. However, there are different types of adverbs that action verbs typically follow. Such adverbs are: *how, carefully, further, critically* and *initially*. However, all of these adverbs function differently in various contexts. Some adverbs seek to ask for further explanation as for the adverb *further* while others explain the manner in which things are done as for the adverb *carefully*, *critically* and *initially*. Moreover, it is worth mentioning that these adverbs have few occurrences in the British corpus, i.e., BNC.

#### Pattern (5): Verb + and + \* verb

**Table 4** shows that the four verbs happen to co-occur with the conjunction "and" to join two verbs that are related in meaning. The verbs, in this pattern, hold the meaning of "asking for further information". It is worth mentioning that all these verbs under investigation have a great number of frequencies with the conjunction "*and*".

#### Pattern (6): NP + \* verb

Another pattern that shows nouns or noun phrases (NP)

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Table 4. Th	Colligational Behavior of the Four Verbs in BNC	
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No.	Verb Patterns	Investigate(s)	Explore(s)	Scrutinize(s)	Examine(s)
1	*Verb + NP/N	+	+	+	+
2	*Verb + conj. + verb	+	+	+	+
3	*Verb + prep.	+	+	+	+
4	*Verb + adv.	+	+	+	+
5	Verb + and + * verb	+	+	+	+
6	NP + * verb	+	+	+	+
7	Verb (modal) + * verb	+	+	+	+
8	Prep. $(to) + *$ verb	+	+	+	+
9	Conj. $(or) + * verb$	+	+	-	+
10	Conj. (but) + *verb	+	+	+	+
11	Adv.+ *verb	+	+	+	+

(\*) the use of the asterisk refers to any of the verbs under investigation.

Adv.: adverb; Prep.: Preposition; Conj.: Conjunction.

along with the verbs under study. It is important to note that NPs come in a variety of forms, including subject pronouns like "we", "they" and "he" or nouns as in "authorities", "experiment", "project", "authors" and analysis". Again, what is noticeable among these nouns is that fact that these nouns are related to knowledge acquisition. To clarify, the first noun i.e., authorities" refers to the reliable source of information. As for the word experiment, it refers to the scientific way of testing information and gaining it. With regard to "project" as another noun preceding these verbs, this word involves generating and creating new knowledge in a planned way. As for authors, this word has to do with a person who writes something such as books, articles, poems, etc., which can be considered as a source of knowledge. Lastly, in order to gain a better understanding, people usually resort to analysis which is deemed as a way not only to examine knowledge but to understand it better.

#### Pattern (7): Verb (modal) + \*verb

This pattern tends to appear with all verbs under investigation to talk about what is permitted, necessary and obligatory. In other words, the four verbs appear with deontic modalities. It is important to mention that in this pattern only the root verbs are considered while verbs with the singular -s do not occur in this pattern.

#### Pattern (8): Preposition (to) + \* verb

The preposition 'to' precedes the node verbs with the infinitive form of the verbs. Therefore, verbs with the singular -s do not exist i.e., *investigates, explores, scrutinizes,* and *examines* as shown in **Table 4**.

#### Pattern (9): Conjunction (or) + \* verb

In this pattern, the conjunction 'or' tends to co-occur with only three verbs under question which are: *investigate*, *explore*, and *examine(s)*, whilst the verb *scrutinize*(s) does not appear in this pattern in BNC. The function of the conjunction 'or' happens to combine two possibilities or alternatives. In other words, examining the concordance lines below, one can spot the verb or verb phrase that precedes the conjunction which combines it with our verbs under investigation.

#### Pattern (10): Conjunction (but) + \* verb

The conjunction 'but', which presents contrasting ideas, happens to co-occur with only three node verbs with low occurrences in the BNC. Additionally, *investigate, explore, scrutinizes* and *examines* are the only forms found in the concordance lines.

#### Pattern (11): Adverb + \*verb

The corpus data show that the four verbs in the two dialects appear with various adverbs such as "*also*" and "*fur*-*ther*" that require more information and additions as well as describing the manner in which the action should be done as in "*carefully*". It is noteworthy that these adverbs pre-modifying carry positive connotations as seen below.

In a nutshell, the four verbs follow the usual patterns of any transitive verb i.e., to be preceded by a noun as (subject), an adverb or to be followed by an object noun, preposition or an adverb as shown in chapter four. Results of the colligational behavior of the verbs under investigation in COCA show that the four verbs share the twelve patterns except for *scrutinize* in which three patterns were absent viz., "\*V+conjunction+V", "\*V+ preposition" as well as "conjunction (but) + \*V". This result could be due to the fact that this verb has the lowest frequency among other verbs. Thus, the patterns of *scrutinize* are not as numerous as the other three verbs in addition to its limited collocational behavior and the very restricted contexts this verb has.

Another reason is the peculiar meaning of the verb *scrutinize* which is much more detailed and accurate than the other synonyms. That is to say, this verb enjoys unique features, a stronger and peculiar meaning than the three other verbs in the current study. Moreover, the strong connotation and semantic meaning of this verb are deemed another reason for the absence of such a verb in the above-mentioned patterns. In other words, the verb does not need more modifying words such as adverbs to describe its manner or intensity. Again, the implicit meaning of the verb is to do close and deeper examination. Therefore, the verb *scrutinize(s)* is not as flexible as the other verbs due to its semantic meaning and its degree of formality in certain contexts.

On the contrary, the three other verbs behave similarly in terms of their colligational behavior and thus are more flexible than the verb *scrutinize(s)*. This might be due to the literal and figurative usage of those words. This result is highly compatible with the findings of Li<sup>[38]</sup>, who stated that preserve has richer and more flexible colligation patterns than conserve and this applies to the three verbs in comparison with scrutinize. Explore has unique features since it has many patterns that can precede the verb as a way to deliver rich and fruitful messages and clarifications. For instance, the patterns of: "NP + \*verb", "verb (modal) + \*verb", along with "preposition (to) + \*verb" precede the verb to add more value to the context by passing a full image of the thing being explored. For the same reason, examine and scrutinize happen to be followed by the preposition (to) since it is part of the infinitive form of the verbs and it aims at showing the purpose and intention.

As for the results of the colligational behavior in BNC, the findings revealed that there are eleven patterns. Findings of BNC have also highlighted the fact that there are ten patterns in common. However, there is only one pattern that differs from other patterns which is: "conjunction (or) + \*verb" as the verb *scrutinize(s)* does not appear here. Other particularities that are also highlighted are in terms of their occurrences. First, the pattern of: "\*verb + preposition" tends to have very low frequencies with all verbs especially with the verb *scrutinize(s)*. Again, this could be explained due to the strong meaning the verb "scrutinize(s)" has, as it can stand alone and give powerful and full meaning.

Also, the verbs *examine(s)* and *scrutinize(s)* have a very low presence in "NP + \* verb". This might be due to the fact that those two verbs appear mostly in passive voice rather than active voice. For example, in the academic field one can say "the results were examined/scrutinized instead of saying the researcher/research examined/scrutinized the results".

Another worth mentioning argument is that there are some patterns that limit the appearances of some verbs such as: "verb (modal) + \*verb" as well as "preposition (to) + \* verb" as they follow strict grammatical rules that consist of rejecting the singular -s with the verbs. Therefore, the verbs *investigates, examines, scrutinizes* and *explores* are absent.

Another justification for the low frequencies of modal verbs or even sometimes the absence of such a pattern is due to the nature and meaning of these verbs that tend to hold the meaning of deeper analysis and exploration and they also express a level of certainty. Thus, using them with modal verbs might make a sentence/text redundant. Therefore, they have registered very low frequencies.

### 5. Conclusion

The overall analysis of the results has uncovered that although the investigated verbs in the present study seem to be similar in isolation, there are some cases where they cannot be interchangeably used. Moreover, the verbs *investigate, examine* and *explore* are more synonymous than *scrutinize*. Furthermore, based on the overall results, this research came up with some pedagogical implications for EFL teachers, curricula planners, lexicographers and even semantists in which they are all advised to resort and activate corpora in their fields. The overall findings can be summarized as follows:

- The results have shown that the most frequent verb is *explore(s)* in COCA and *examine(s)* in BNC. The two verbs occupied the first two ranks in the two dialects. Interestingly, *investigate(s)* has scored the third rank with some variations in their frequencies. The results of both corpora have also revealed that *scrutinize(s)* has scored the lowest frequencies in the two dialects.
- 2. Regarding the distribution of these verbs among different genres, the four verbs appear mostly in academic texts

in American English. However, they have the lowest frequencies in T.V. except for *investigate*(s) which has very low frequency in fiction. As for their appearance in British English, both *investigate(s)* and *explore(s)* appear with high frequencies in non-academic texts, unlike *examine(s)* and *scrutinize(s)* which appear mostly in academic texts. Moreover, the corpus data show that the four verbs have registered the lowest frequencies in the spoken genre.

- 3. The overall findings of COCA have demonstrated that all verbs under investigation have many patterns in common. For example, they all share the patterns of "\*verb + NP/N", "verb + and + \*verb", "NP + \*verb", "verb (modal) + \*verb", "preposition (to) + \*verb", "that + \*verb" and "conjunction (or) + \*verb". On the contrary, there are many patterns that do not occur with the verb *scrutinize(s)*. For instance, the patterns of "\*verb + conjunction (but) + \*verb" are found with the verbs *investigate(s), explore(s)* and *examine(s)*.
- 4. Findings of BNC have also highlighted that there are some patterns in common such as "\*verb + NP/N", "\*verb + conjunction + verb" and "\*verb + adverb". However, all the other patterns have some peculiarities. Moreover, "that + \*verb" pattern is completely absent in the British dialect while it is highly present in the American dialect with all verbs.

### **Author Contributions**

Conceptualization, S.S. and Y.J.; methodology, S.S, L.K., and B.R.; software, S.S. and Y.J.; validation, S.S., L.K. and B.R.; formal analysis, S.S.; investigation, B.R.; resources, S.S. and L.K.; data curation, B.R.; writing—original draft preparation, Y.J., S.S.; writing—review and editing, L.K.; visualization, B.R. All authors have read and agreed to the published version of the manuscript.

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Date are available upon request.

### **Conflicts of Interest**

The authors declare no conflict of interest.

### **Appendix A. Concordance Lines from COCA**

hammers , not to mention toasters and toilet plungers . To	investigate	differences in social learning in humans and chimpanzees , my
branch lengths between the input and output trees . To	investigate	differences in branch length , we calculated the cophenetic
who were dispatched to the resort city in October 1990 to	investigate	allegations about Robb's social life there . # The memos,
:# - The NFL has hired an independent counsel to	investigate	allegations of sexual harassment by five players of Boston
, smaller flexural reinforcing bar ratios were used to	investigate	the effect of Grade 550 MPa (80 ksi ) shear reinforcing
nm eshm ent . The purpose of the current <b>pilot</b> study was to	investigate	the effect of race/ ethnicity , gender , year in college ,
family preservation and family reunification , and 🕻 b 🕽 to	investigate	the relationship between educational status and selected
colocalizes with abnormal paramyosin accumulations # To	investigate	the relationship between the E424K protein and the formation of
up as a sort of Royal Family # When one	scrutinizes	the lifestyle of the group's leaders , the type of properties
s placed on paid administrative leave Thursday while ECISD	investigates	a complaint made against Badon by a co-worker . Badon was no
for something else greater than that , a film that really	scrutinizes	a father-son relationship and the father as the failed athlete .
Riddel , William Spanos , and J. Hillis Miller . Krieger	scrutinizes	a poem as a determinate , knowable , special constructed object
know the two of you separate better given some time to	explore	a new situation then explain that it 's best for you
, or revived sex , or enjoying the opportunity to	explore	a new life on my own . That said , the process
the, as 17 working groups were authorized to	explore	a variety of topics ranging from climate debt to food
(1) satisfy changing information needs 🕴 🕻 💈 🕽	explore	a Web site (3) visit a recommended Web page
younger sister has had a baby before 🚦 did Rose	scrutinizes	my face for another hair . * It can happen . Your
of either shaming me or bullying me Into resigning [ He	scrutinizes	my work lalks down to me, and peppersme with
robbing and killing a woman who police say trusted him to	investigate	a personal case involving stolen money.# Officer Chapel, an

Screenshot 1: Concordance Lines for Pattern (1): Verb + NP/N in COCA.

courage students not simply to recycle information but to	investigate	and analyze its sources . This includes : # Building support
nd Speaker <u>Shap</u> Smith <u>requested</u> the Attorney General to	investigate	and determine whether in providing this incorrect information
<u>and</u> ( <u>4</u> ) improvements to the way the FDNY	investigates	and resolves complaints of racial discrimination in the
of the Georgia Division of Public <u>Health</u> , which monitors ,	investigates	and responds to public health crises , will receive less state
column by Sun- <u>Times</u> technology writer Howard Wolinsky	examines	and evaluates real estate- and # homeowning-related sites on
. Broomfield 's new $\underline{movie}$ , Kurt and Courtney , which	examines	and rejects allegations that Love was complicit in her husband
heologians with a <u>formidable</u> , multi-faceted task: first , to	explore	and identify these potential solutions; second, to articulate
control of their work. # Kobayashi releases students to	explore	and invent in much the same way that art instructors teaching
hat was most impressive about <u>the book</u> was how Conrad	explores	and describes situations and experiences in the Heart of
3203266 <u># This</u> blog	explores	and examines the intersections of rhetoric , race , and religion
orts by the Federal <u>Government</u> and state governments to	examine	and resolve issues related to race , ethnicity , religion and ,
whom these things <u>belong</u> , And <u>she said</u> , " Please	examine	and see whose signet ring and cords and staff are these

*Screenshot 2: Concordance Lines for Pattern (2): \*Verb + conjunction + verb in COCA.* 

on, her, own, , meets the villain and runs for her life     on, her, own, , Suddenly, she is not only a witness     in, , Dickensian, way, the life and times of one of     in, detail, Roman, ingarden, 's thoughts about how we understand     for, allegations, that occur, outside the drug testing program.
Im   Dickensian   way   , the life and times of one of     Im   Dickensian   Ingardem   's thoughts about how we understand
in detail Roman Ingarden 's thoughts about how we understand
for allegations that occur outside the drug testing program .
for other evidences . His investigations revealed that
in every case what the degree of the Government 's involvement
in person ? I 'll take a shuttle . Discovery stays here .
in the fall and the bureau and Louisiana State Police found
for minerals 🕌 my mother said . " Om a found the
for your self then you be the JJRY . # More then
in detail the richness of language associated with this
in detail the manner of life identified with this place ."
in greater detail some of the areas hardest hit by the event.
in her post below the power of community and engaging the peo
in her course on Polish poetry . # Grotz is no stranger
through argument and reflection what it means to believe and
through possible futures until she figures out how to lead
through writing and games . D. Hunter regularly writes board
from a different perspective , and to broaden , them es and goals
in detail the disparities between racial/ethnic groups in

Screenshot 3: Concordance Lines for Pattern (3): \*Verb + preposition in COCA.



Screenshot 4: Concordance Lines for Pattern (4): \*Verb + adverb in COCA.

substantive questions that require them to explore and	investigate	in depth 🛛 Too often .students are rushed through this early
the sides respond to this deadly attack : Shakhov assists and	investigates	while Borovskii and Szov try to subvert
Centers for Disease Control and Prevention , which monitors and	investigates	outbreaks of food-borne illnesses nationwide
my other tasks weekly regression analyze and	investigate	system 🚶 etc 🍹 h as 5 times capacity
to for guidance . We had to let him discover and	explore	his heritage by himself . Let him find his own path .
l encouraged the students to investigate and	explore	ideas . They engaged in reading and interpreting data
Roberts may be a author UN agency asked often investigates and	explores	themes with attention on responsive commonly asked queries
You have to remain perfectly still while 🕴 examine and	scrutinize	you [Shiffing] Dripping . Huh ?Do you ever eat dripping
That is changing the way Washington works and	scrutinizes	our future government UDY-WOODRUFF# Well , Lisa
means to bring or put together : hence to compare and	examine	🛿 as evidence 🛛 and so to prove . Used in the
river . Grant slides off the boulder . He kneels and	examines	the particles They shimmer in the moonbeams coming down

Screenshot 5: Concordance Lines for Pattern (5): Verb + and + \* verb in COCA.

you know , and we two team up . So we	investigate	, find $\frac{1}{100}$ out the nutrition value , analyze what is inside and
was full of hate . Nasty , self-destructive Did you	investigate	these problems yourself ? I talked to Kira . I could see
GBI Director Vernon Keenan whose agency	investigates	the majority of such incidents in Georgia acknowledged the
as a priest in a small church, while privately he	investigates	cases he considers as those of possible demonic possession
It is important that researchers	explore	ways in which new knowledge and understanding can be
past the Big Bang . # How far back can scientists	explore	🛿 🗏 ML 🕴 In some sense , you can think of
is the next step after miniaturization . This book	explores	the cutting edge of a new technology that will find usage in
Democratic Party operatives whenever reporters	scrutinize	a lawmaker 's voting record is something to behold . These
but it 's core function differs fundamentally 🛽 🖿	scrutinizes	the art object rather than the reality as interpreted by the
This documentary account	examines	the development of an action-research requirement within
reports and inquiry responses Data <b>analysis</b>	examines	the data stored within a system . Information analysis
Muslim town in Central Sudan , this article	examines	some of those demands and the nature of the zar 's
Memory," published in 1996 The book	examines	how history has been trivialized by popular culture .
asthe 10,000 hour rule , were valid 🕴 🖪 🚾	examine	top athletes , musicians , etc. , they have easily put that

*Screenshot 6: Concordance Lines for Pattern (6): NP* + \* *verb in COCA.* 

It is the most important subject intelligent persons can	investigate	and reflect upon [] " The government should never go into debt
Throughout the game students must	investigate	clues and talk to virtual characters . Another game . Expedition
stone in the bread of Kullervo . Drama contract We shall	explore	some aspects of the theme (see above ) . We shall
,the public can look at it the press can	scrutinize	it [ both political parties can go at it , and ultimately
shocks in peer-reviewed journals , where experts could	scrutinize	It . To defend his methods , he points to a bibliography
to recognize as reasonable , " 78 Thus 🖡 courts) <b>must</b>	scrutinize	any technology the government might seek to justify under the
Not Otherwise Specified (EDNOS). 22 Future studies may	examine	the combination of these characteristics , or other eating
a Goodness of Fit Index of .94 Future research should	examine	officials from other sports to identify similarities and

Screenshot 7: Concordance Lines for Pattern (7): Verb (modal) + \* verb in COCA.

local officials as well as first responders have the ability to	investigate	the <b>incident</b> to the fullest and determine if there is a credible
a layout at the user 's request I This ability to	explore	and learn a space virtually before actually going there , called
we are aware , this is also the first study to	explore	the relationship between prescribing errors and pharmacists
lawyers expect the decision to spur civil-rights advocates to	scrutinize	state constitutions for provisions guaranteeing not only
With its huge lightgathering power , it will be able to	scrutinize	remote galaxies at the edge of the observable universe . " The
nor Monroe had any idea that he was being asked to	examine	extraterrestrial sites 🖟 🖞 Neither of us knew what we were

Screenshot 8: Concordance Lines for Pattern (8): Preposition (to)+\*verb in COCA.

wit that wears its transcendent ambitions lightly Works that	investigate	chance and indeterminacy through found objects , monochrome
The guiding force for such strategies should be research that	investigates	factors that place youth at risk for committing violent acts .
reviewed over 6,000 " play histories , " case studies that	explore	the <b>role of play</b> in each person 's childhood and adulthood .
answer the biggest questions . We 're a research agency that	explores	# We want to look at new questions of what we
of Agriculture one of at least three federal agencies that	scrutinize	the various aspects of production , along with the
administration added social media checks to a program that	scrutinizes	persons from majority-Muslim nations , newly obtained
Summaries and discussion of sixty-two research studies that	examine	the effects of arts learning on students' social and academic
of " A Whole New Mind , 📲 a book that	examines	the importance of irreplaceable human-touch , hands-on skills
American Art Museum presents the only major exhibition that	examines	how America ? s artists represented the impact of the Civil War

*Screenshot 9: Concordance Lines for Pattern (9): That* + \* *verb in COCA.* 

employees did not visit the office , interview the doctor or	investigate	his credentials before placing the student .
the important questions , and wo n't bother to report or	investigate	or find out what happened so that we can make informed decisions
, 1970 ; Rao &; DeMaris , 1995 ) 🗍 💽	investigates	only a very small set of behaviors (James et al. ,
but he can not take depositions or	examine	witnesses in court
monkeys that are less able to hold up their heads or	scrutinize	novel objects . At three years old , their hippocampus , a
The act of coding is generally to discover or	explore	data for further analysis , which means that coding is only a
near term , humans may colonize the Moon and Mars or	explore	other planets in the solar system . But what about the longer

Screenshot 10: Concordance Lines for Pattern (10): Conjunction (or) + \* verb in COCA.

Trinity Foundation , which not only helps the needlest 🛛 but	investigates	televangelists. Also with us , J.C . Joyce , attorney whose
doesn't argue with the individual but	explores	the person 's ambivalence
news broadcasts 🛛 but	examine	them carefully.
She never looks up  , but	examines	her hair in a hand mirror all the

Screenshot 11: Concordance Lines for Pattern (11): Conjunction (but) + \* verb in COCA.

of Americans say the federal government should activelyinvestigateand infittrate extremist groups , even if it may infringe onto have proactive law enforcement to go out and actuallyinvestigateand find these victims , and so its a whole new ballhealth is one of the few in the nation if hat actuallyinvestigatesclaims of sex transmissions , rather than merely taking the manInstitute for Diversity and Ethics in Spot , which annuallyexaminesthe actal and gender composition of pro and college personnelthat they could investigate ? Did the Army itself adequatelyinvestigateall of the complaints that now seem to be coming forward aboutthat on a case-by-case basis , carefully reviews ] carefullyscrutinizesi any transaction that could pose any risk to the securityIn an era of fiscal restraint , we should absolutelyscrutinizefunding decisions ] But , we must do so honestly and inthe counter . The man picked up the camera for closelyexamineits exterior ; then opened the cover and extended the bellowscrankcase from the original 1903 Flyer ! Visitors can alsoexaminethe problem of humankind as the image of God : we cannow on display at the museum . # The fexhibit alsoscrutinizesbrogong speculation that the military was testing capturedthemselves in face-to-face interviews ]. The article alsoinvestigatesthe risk management techniques presented by the informants.in spite of the near-absence of gay characters ! If furtherinvestigatesthe risk management techniques presented by the informants.in spite of the near-absence of gay characters ! If furtherinvestigatesthe risk ma			
health is one of the few in the nation that actually investigates claims of sex transmissions , rather than merely taking the man institute for Diversity and Ethics in Sport   which annually examines the facial and gender composition of pro and college personnel that they could investigate ? Did the Army itself adequately investigate all of the complaints that now seem to be coming forward about that on a case-by-case basis , carefully reviews [] carefully scrutinizes ; any transaction that could pose any risk to the security In an era of fiscal restraint [ we should absolutely] scrutinizes ; any transaction that could pose any risk to the security funding decisions ] But , we must do so honestly and in the counter . The man picked up the camera to closely examine is exterior   then opened the cover and extended the bellows crankcase from the original 1903 Flyer   Visitors can also explore reconstructions of the Wrights ' living quarters and hangar , the human face in the Middle Ages ] we must also examine the problem of humankind as the image of God : we can now on display at the museum . # The fexibilit [ also examines for the first time the relationship between fusion and flicker of the research on the transition to middle school ] there examines for the first time the relationship between fusion and flicker in spite of the near-absence of gay characters . If further investigates the role of cantoonist 's gender , the age of the title an important figure in the Vatican . Looks like [we already] explore the role of cantoonist 's gender , the age of the title strand " narrative stylistics, " (n2 ) [Simpson further] explores the concept of lexual medium by making a structural analysis of the concept of lexual medium by making a structural analysis of the concept of lexual medium by making a structural analysis of the concept of lexual medium by making a structural analysis of the concept of lexual medium by making a structural analysis of the concept of lexual medium by making a structural analysis of the conce	of Americans say the federal government should actively	investigate	and infiltrate extremist groups , even if it may infringe on
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that they could investigate ? Did the Army itself adequately investigate all of the complaints that now seem to be coming forward about that on a case-by-case basis , carefully reviews [] carefully scrutinizes [] any transaction that could pose any risk to the security In an era of fiscal restraint ] we ishould absolutely scrutinizes [] any transaction that could pose any risk to the security funding decisions ]. But , we must do so honestly and in the counter . The man picked up the camera iso [] closely [] examine its exterior ] then opened the cover and extended the bellows crankcase from the original 1903 Flyer . Visitors [] can also [] explore reconstructions of the Wrights ' living quarters and hangar , the human face in the Middle Ages ] we [must also ] examine the problem of humankind as the image of God : we can now on display at the museum . # The [exhibit also] examines for the first time the relationship between fusion and flicker of the research on the transition to middle school [] then [] examines more specifically research highlighting the critical themselves in face-to-face interviews ]. The article also [] investigates the role of cantoonist 's gender , the age of the title an important figure in the Vatican . Looks like [] we already [] explore him ] not him ve found nothing . This job will not associates have not yet received funding fo [] further [] investigates the concept of lexual medium by making a structural analysis of [] explores the concept of lexual medium by making a structural analysis of [] explores the concept of lexual medium by making a structural analysis of [] explores the concept of lexual medium by making a structural analysis of [] explores the concept of lexual medium by making a structural analysis of [] explores the concept of lexual medium by making a structural analysis of [] explores the concept of lexual medium by making a structural analysis of [] explores the concept of lexual medium by making a structural analysis of [] explores the concept of lexual medium by	health is one of the few in the nation that actually	investigates	$\ensuremath{claims}$ of sex transmissions , rather than merely taking the man
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In an era of fiscal restraint, we should absolutely scrutinize funding decisions. But, we must do so honestly and in the counter. The man picked up the camera for closely examine its exterior, then opened the cover and extended the bellows crankcase from the original 1903 Flyer. Visitors can also explore reconstructions of the Wrights 'living quarters and hangar, the human face in the Middle Ages, we must also examine the problem of humankind as the image of God : we can now on display at the museum. # The exhibit also scrutinizes angaing speculation that the military was testing captured has not previously been reported. This study latso examines for the first time the relationship between fusion and flicker of the research on the transition to middle school [] then examines more specifically research highlighting the critical themselves in face-to-face interviews. The article also investigates the role of cartoonist 's gender , the age of the title an important figure in the Vatican. Looks like we already explore this in othim ve found nothing. This job will not associates have not yet received funding for further investigate the concept of lextual medium by making a structural analysis of the strand " narrative stylistics, " (n2 ) [Simpson] further investigates the concept of lextual medium by making a structural analysis of the concept of lextual medium by making a structural analysis of the concept of lextual medium by making a structural analysis of the concept of lextual medium by making a structural analysis of the concept of lextual medium by making a structural analysis of the concept of lextual medium by making a structural analysis of the concept of lextual medium by making a structural analysis of the concept of lextual medium by making a structural analysis of the strand " narrative stylistics , " (n2 ) [Simpson] further in the strand structural analysis of the concept of lextual medium by making a structural analysis of the concept of lextual medium by making a structural analysis of the concept	that they could investigate ? Did the Army itself adequately	investigate	all of the complaints that now seem to be coming forward about
the counter . The man picked up the camera for closely examine its exterior , then opened the cover and extended the bellows crankcase from the original 1903 Flyer . Visitors can laiso explore reconstructions of the Wrights 'living quarters and hangar, the human face in the Middle Ages , we must also examine the problem of humankind as the image of God : we can now on display at the museum . # The exhibit also examine the problem of humankind as the image of God : we can has not previously been reported . This study also examines for the first time the relationship between fusion and flicker of the research on the transition to middle school It then examines more specifically research highlighting the critical themselves in face-to-face interviews . The article also investigates the risk management techniques presented by the informants in spite of the near-absence of gay characters . If further investigates the role of cartoonist 's gender , the age of the title an important figure in the Vatican . Looks like we already explore him , not him ve found nothing . This job will not associates have not yet received funding fo further investigate his theories . Plummer is cautiously optimistic about the strand " narrative stylistics , " (n2 ) Simpson further explores the concept of lextual medium by making a structural analysis of the concept of lextual medium by making a structural analysis of the concept of lextual medium by making a structural analysis of the concept of lextual medium by making a structural analysis of the concept of lextual medium by making a structural analysis of the concept of lextual medium by making a structural analysis of the concept of lextual medium by making a structural analysis of the concept of lextual medium by making a structural analysis of the concept of lextual medium by making a structural analysis of the concept of lextual medium by making a structural analysis of the concept of lextual medium by making a structural analysis of the concept of lext	that on a case-by-case basis , carefully reviews 🛛 carefully	scrutinizes	, any transaction that could pose any risk to the security
crankcase from the original 1903 Flyer I Visitors can also explore reconstructions of the Wrights ' living quarters and hangar ,   the human face in the Middle Ages I we must also examine the problem of humankind as the image of God : we can   now on display at the museum I # The exhibit also scrutinizes engoing speculation that the military was testing captured   has not previously been reported I This study also examines for the first time the relationship between fusion and flicker   of the research on the transition to middle school I, them examines more specifically research highlighting the critical   themselves in face-to-face interviews I The article also investigates the role of cartoonist 's gender , the age of the title   an important figure in the Vatican . Looks like we already explore him i not him ve found nothing . This job will not   associates have not yet received funding for further investigates his theories . Plummer is cautiously optimistic about the   strand " narrative stylistics , " (n2 ) Simpson further explores the concept of lexual medium by making a structural analysis of	In an era of fiscal restraint   we should absolutely	scrutinize	funding decisions . But , we must do so honestly and in
the human face in the Middle Ages , we must also examine the problem of humankind as the image of God : we can now on display at the museum . # The exhibit also scrutinizes begoing speculation that the military was testing captured has not previously been reported . This study also examines for the first time the relationship between fusion and flicker of the research on the transition to middle school then examines more specifically research highlighting the critical themselves in face-to-face interviews . The article laiso investigates the risk management techniques presented by the informants . in spite of the near-absence of gay characters If further investigates the role of cartoonist 's gender , the age of the title an important figure in the Vatican . Looks like we already explore him , not him ve found nothing . This job will not associates have not yet received funding for further investigate his theories . Plummer is cautiously optimistic about the strand " narrative stylistics , " (n2 ) Simpson further explores the concept of textual medium by making a structural analysis of	the counter. The man picked up the camera to closely	examine	its exterior , then opened the cover and extended the bellows
now on display at the museum . # The exhibit also scrutinizes engoing speculation that the military was testing captured has not previously been reported . This study also examines for the first time the relationship between fusion and flicker of the research on the transition to middle school . Then examines more specifically research highlighting the critical themselves in face-to-face interviews . The article also investigates the risk management techniques presented by the informants . in spite of the near-absence of gay characters . It further investigates the role of cartoonist 's gender, the age of the title an important figure in the Vatican . Looks like we already explore him , not him ve found nothing . This job will not associates have not yet received funding to further investigate his theories . Plummer is cautiously optimistic about the strand " narrative stylistics , " (n2 ) Simpson further explores the concept of textual medium by making a structural analysis of	crankcase from the original 1903 Flyer Visitors can also	explore	reconstructions of the Wrights ' living quarters and hangar ,
has not previously been reported This study late for the first time the relationship between fusion and flicker   of the research on the transition to middle study late more specifically research highlighting the critical   themselves in face-to-face interviews The article late investigates the risk management techniques presented by the informants .   in spite of the near-absence of gay characters If furtherr investigates the role of cartoonist 's gender , the age of the title   an important figure in the Vatican Looks like we already explore him , not him ve found nothing . This job will not   associates have not yet received funding for furtherr investigate his theories . Plummer is cautiously optimistic about the   strand " narrative stylistics , " (n2 ) Simpson furtherr explores the concept of lextual medium by making a structural analysis of	the human face in the Middle Ages 🗍 🚾 must also	examine	the problem of humankind as the image of God : we can
of the research on the transition to middle school [] then examines more specifically research highlighting the critical   themselves in face-to-face interviews The article latso investigates the risk management techniques   in spite of the near-absence of gay characters If further investigates the role of cartoonist's gender, the age of the title   an important figure in the Vatican Looks like we already explore him i not him ve found nothing. This job will not   associates have not yet received funding [ic] further investigate his theories Plummer is cautiously optimistic about the   strand " narrative stylistics, " (n2 ) [Simpson further explores the concept of textual medium by making a structural analysis of	now on display at the museum . # The exhibit also	scrutinizes	ongoing speculation that the military was testing captured
themselves in face-to-face interviews The article also investigates the risk management techniques presented by the informants.   in spite of the near-absence of gay characters If further investigates the role of cartoonist 's gender, the age of the title   an important figure in the Vatican Looks like we already explore him , not him ve found nothing. This job will not   associates have not yet received funding [to] further investigate his theories Plummer is cautiously optimistic about the   strand " narrative stylistics, " (n2 ) Simpson further explores the concept of textual medium by making a structural analysis of	has not previously been reported . This study also	examines	for the first time the relationship between fusion and flicker
in spite of the near-absence of gay characters . It further investigates the role of cartoonist 's gender , the age of the title an important figure in the Vatican . Looks like we already explore him , not him ve found nothing . This job will not associates have not yet received funding [to] further investigate his theories . Plummer is cautiously optimistic about the strand " narrative stylistics , " (n2 ) [Simpson further explores the concept of textual medium by making a structural analysis of	of the research on the transition to middle school 🛽 then	examines	more specifically research highlighting the critical
an important figure in the Vatican . Looks like we already explore him , not him ve found nothing . This job will not   associates have not yet received funding [rd] further investigate his theories . Plummer is cautiously optimistic about the   strand " narrative stylistics , " (n2 ) Simpson further explores the concept of lextual medium by making a structural analysis of	themselves in face-to-face interviews . The article also	investigates	the risk management techniques presented by the informants .
associates have not yet received funding to further investigate his theories. Plummer is cautiously optimistic about the strand " narrative stylistics , " ( n2 ) Simpson further explores the concept of textual medium by making a structural analysis of	in spite of the near-absence of gay characters . It further	investigates	the role of cartoonist 's gender , the age of the title
strand " narrative stylistics , " ( n2 ) Simpson further explores the concept of textual medium by making a structural analysis of	an important figure in the Vatican . Looks like we already	explore	him , not him ve found nothing . This job will not
	associates have not yet received funding to further	investigate	his theories . Plummer is cautiously optimistic about the
can enter the United States . Embassy officials must now scrutinize a broader pool of visa applicants to determine if they pose	strand " narrative stylistics , " ( n2 ) Simpson further	explores	the concept of lextual medium by making a structural analysis of
	can enter the United States . Embassy officials must now	scrutinize	a broader pool of visa applicants to determine if they pose

Screenshot 12: Concordance Lines for Pattern (12): Adverb + \* verb in COCA.

## **Appendix B. Concordance Lines from BNC**

without a search warrant early on Oct. 18-19 to	investigate	allegations that the party had transferred DM107,000,
'Smith 's suggestion is that the GMC should '	investigate	treatments offered by doctors that may be risky and
# Subject Area : # UNKNOWN This project	investigates	aspects of the post-war development of an ever-more
current policy concerns . On the first count it will	explore	aspects of the socio-economic organisation of minority
and in the Treaty of Rome . The research will also	examine	areas where there was a refusal to abandon sole national
speech which can only be appreciated when one	examines	language production above the sentence level ; hence this
, O'Neill announced the Cameron Commission to	investigate	the causes of the disturbances . Unionism was collapsing .
he now make her his partner so that they could	investigate	this mystery together ? Yes ! he decided . Two brains were
Yeah , the uni er the uniform branch turn up to	investigate	a crime and if they find fingerprints they will get what 's
Shakespeare is a fine follow-up . Barton does	investigate	the actor 's work in a more contemporary way and the
the post-structuralism of Foucault discerns and	investigates	a continual flux and change in society and in structures
families to buy freehold plots . Elsewhere , he	investigates	a fertiliser factory , the Bayeux tapestry , and the lunatic
in the next chapter , they are able to uncover and	explore	a rich world of local politics . # Activity 4.2 # Local
with lying on a beach ? Quite the best way to	explore	an island in the sun is to potter round it in
to be premiered on 27 March . The dialogue	explores	my understanding of certain colourings Klee 's images
many of them had followed in the early 1970s to	scrutinize	rule books and exploit every line and loophole in their
the Commons and the Lords has been set up to	scrutinize	statutory instruments , and therefore to facilitate
. The selector takes each subject field separately ,	scrutinizes	the library 's existing stock on the subject , and the pattern
look at "The retreate " by Henry Vaughan and to	examine	a small number of its elements and terms in relation to the
argues that their typology is discriminatory . She	examines	the connection between the curriculum and the deviance

Screenshot 13: Concordance Lines for Pattern (1): \*Verb + NP/N in BNC.

s Hill . It has also given a commitment to '	investigate	and develop appropriate child care options according to
, the teacher and the pupils have the opportunity to	investigate	and discover together whether through discussion and
in April I said I was n't feeling comfortable . We	investigates	and discovered that was carrying more than half a litre
solving activities , and $\#$ the <b>Problem</b> Solver , who	investigates	and resolves the problem . There are three PCF dialogues
to correct them . An outside facilitator could help them	examine	and redesign their actions just as a tennis coach might
encouraging the students to use this awareness to	examine	and analyze their other language (which was usually their
that of a doctor dealing with an <b>individual</b> : the doctor	examines	and prescribes , the patient listens and obeys .' Patient
would emulate the way in which the human mind	examines	and researches information , not in a step-by-step , linear
and Opposition members will take particular care to	scrutinize	and attack government action . The leading Opposition
conservative ideologues who were commiss-ioned to	scrutinize	and prepare detailed reports on the workings of agencies
efforts to provide the time and space for the students to	explore	and develop their abilities and inclinations to learn and
Demo systems are generally developed by linguists to	explore	and explain linguistic phenomena which can later be
led Proust , as it leads his <b>fictional hero</b> , to	explore	and examine his past . In the novel , however , Marcel
Finally Zabriskie shows the work of Pascal Kern which	explores	and combines the traditions of photography , sculpture
ageism wherever it is encountered . Mary Marshall	explores	and develops this vital question in the next chapter .

*Screenshot 14: Concordance Lines for Pattern (2): \*Verb + conjunction + verb in BNC.* 

investigate	in depth some of those binary operations which have , by their
investigate	into Kinsella 's past . Who?" Billy Durkin .
investigates	by going to places , tackling people , often but not always
explore	at his own pace projects involving the art of photography , video
explore	in depth fundamental questions , but readers expecting such
explores	in more detail the effect of such equivalence classes on parsing
explores	in satisfying depth the activities , notably of the French , in
scrutinize	to professional standards , people make home brews from their
examine	in the next few chapters what evidence there is to support this
examine	in detail the effects of epidemic disease at the local level in
examines	in depth only recently cleaned paintings , analysing changes in
examines	in depth the important area of doping control of school-age
	investigate investigates explore explores explores scrutinize examine examine

Screenshot 15: Concordance Lines for Pattern (3): \*Verb + preposition in BNC.

an area known as ' Truth Maintenance   ) 🗍 To	investigate	further the link between planning and language a computer model
coming out in newspaper format each week . Unable to	investigate	further the boundary between body and spirit , Crookes moved on
taught to read can be improved . We should continue to	investigate	how children learn to read and the most effective media , methods
duty imposed by section 11(5) of the Act of 1988 to	investigate	how death occurred prevailed in any conflict with the provision
we can not get computers to understand them . The research	investigates	how adult readers understand pronouns . It will show how
each required . Ongoing counselling offered the opportunity to	explore	further areas ; regular reviews at the old peoples ' home are
1991. # THE SECRET RAPTURE by David Hare # Prospect Drama	explores	how notions of morality &; personal relationships changed
on a handful . Murrie suggested Attlee should be encouraged to	scrutinize	carefully the number of committees being created and to
better price than they expected . # TODAY 'S STEP #	Examine	carefully every specific selling interface you and your people
those whose work is sold or published abroad may need to	examine	carefully how their work is likely to be affected by laws in
of deindustrialization . But it does point to the need to	examine	carefully the social processes registered by apparently
and reorganisation . In addition the investigator	examines	critically the role of the devolved government which operated
deals primarily with western industrial $\frac{1}{2}$ , which it	examines	descriptively in a somewhat piecemeal fashion . Thus , except
Table 10.3 provides the alternative presentation . Table 10.4	examines	each of the sectors we identified at the beginning of the
underlying the study of variation . $\ensuremath{\mbox{Like}}$ Gumperz , she	examines	initially the use made by speakers of linguistic variation

Screenshot 16: Concordance Lines for Pattern (4): \*Verb + adverb in BNC.

It would give her time to explore and	investigate	and she would have to pick her time carefully because she
Where possible the analyst must identify and	investigate	detailed results . This will be especially important where
is reduced when the employer consults and	investigates	the wishes of those affected before the move . If people
and elderly relatives . And they identify and	explore	thought-provoking questions about the implications
may help a congregation to experiment and	explore	new possibilities . In view of the Commission 's belief that
and Rodrigo Paestra . Maria confronts and	explores	her own jealousy through her obsession with the fugitive on
to truth which their colleagues test and	scrutinize	to professional standards , people make home brews from
port of Cascais. Chance to discover and	explore	historic Lisbon . Visit to the walled city of Obidos and the
approach could be used to identify and	explore	the information needs of an organisation. In this respect the
WesleySmith sees how they get on and	explores	some of the secrets of the show 's success . # FIONA

Screenshot 17: Concordance Lines for Pattern (5): Verb + and + \* verb in BNC.

of inspectors to help the Saudi authorities	investigate	the $\ensuremath{crash}$ . This was the second plane crash of the year
take their investments so seriously that they	investigate	the $\ensuremath{OTC}$ companies personally . Their comments , although
will be able to attain full genitality unless we	investigate	this realm , hmm ? ' 'Full genitality?' '
A standard latent inhibition experiment	investigates	transfer from a pre-exposure phase in which the target
. The Indian government daims that it	in vestigates	all allegations of torture , but this rarely happens without
is well known. On the property side he	in vestigates	tife to land , prepares contracts of sale , conveyances and
in that part of Dyfed . This project	in vestigates	the possibilities for economic development which were open
Aprill said I was n't feeling comfortable    We	investigates	and discovered that I was carrying more than half a litre of
and subsequent outcome . The authors	explore	the idea that causal attributions made by survivors about
into long thread-like feelers with which they	explore	the water ahead of them and , at breeding times , caress
for Scotland . This secondary analysis	explores	further the nature and level of financial awards on divorce
it was that I really began to read . As he	explores	the poetry of Byron at Salisbury he works hard at his

Screenshot 18: Concordance Lines for Pattern (6): NP + \* verb in BNC.

It is the most important subject intelligent persons can	investigate	and reflect upon . "The government should never go into debt
Throughout the game , students must	investigate	clues and talk to virtual characters . Another game . Expedition
stone in the bread of Kullervo . Drama contract We shall	explore	some aspects of the theme (see above ) . We shall
, the public can look at it , the press can	scrutinize	it , both political parties can go at it , and ultimately
shocks in peer-reviewed journals , where experts could	scrutinize	it . To defend his methods , he points to a bibliography
to recognize as reasonable . " 78 Thus , courts must	scrutinize	any technology the government might seek to justify under the
Not Otherwise Specified (EDNOS ) . 22 Future studies may	examine	the combination of these characteristics , or other eating
a Goodness of Fit Index of .94 . Future research should	examine	officials from other sports to identify similarities and

Screenshot 19: Concordance Lines for Pattern (7): Verb (modal) + \*verb in BNC.

officials as well as first responders have the ability to	investigate	the <b>incident</b> to the fullest and determine if there is a credible
a layout at the user 's request . This ability to	explore	and learn a space virtually before actually going there , called
we are aware , this is also the first study to	explore	the relationship between prescribing errors and pharmacists '
expect the decision to spur civil-rights advocates to	scrutinize	state constitutions for provisions guaranteeing not only
With its huge lightgathering power , it will be able to	scrutinize	remote galaxies at the edge of the observable universe . " The
nor Monroe had any idea that he was being asked to	examine	extraterrestrial sites . " Neither of us knew what we were

Screenshot 20: Concordance Lines for Pattern (8): Preposition (to) + \* verb in BNC.

important questions , and wo n't bother to report or	investigate	or find out what happened so that we can make
, 1970 ; Rao &; DeMaris , 1995 ) 🖡 이	investigates	only a very small set of behaviors (James et al. ,
but he can not take depositions or	examine	witnesses <mark>in</mark> court .
The act of coding is generally to discover or	explore	data for further analysis , which means that coding is
term , humans may colonize the Moon and Mars or	explore	other planets in the solar system . But what about the

Screenshot 21: Concordance Lines for Pattern (9): Conjunction (or) + \* verb in BNC.

job to the best of a <b>bad bunch</b> ] but	investigate	where the recruiting methods and job specification may
rarely seems resistant to change as such ] but	scrutinizes	its social and moral effects , deciding each case
it before now . He does n't take a sample but	examines	the water gushing through a drain from under the road

Screenshot 22: Concordance Lines for Pattern (10): Conjunction (but) + \* verb in BNC.



Screenshot 23: Concordance Lines for Pattern (11): Adverb + \* verb in BNC.

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