Word Association and Word Games

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Introduction

Word association plays an important role in the analysis of the connections between words and concepts. It is suggested that by conducting a word association test (WAT), the ways that knowledge is structured in the brain can be revealed (Sinopalnikova, 2003). Read (1993) claimed that the results of the WAT in English on native and non-native speakers can vary significantly, with native speakers having relatively stable patterns of word associations and non-native speakers having more diverse and unstable patterns. The claim of McCarthy (1990) resonates with the claim by Read that the mental lexicon of native and non-native speakers can differ significantly. Read also proposed that some WAT responses by non-native speakers are based on the phonological links rather than the semantic links with the stimulus words (Read, 1993). Rothman (2009) further indicated that first language (L1) speakers respond to the WAT paradigmatically, unlike second language (L2) speakers that tend to give collocational associations. Moreover, it is claimed that associative tendencies are cultural-specific (Harrison, 2015), which means that the mental lexicon of people are related to the social environment and culture they are immersed in.

Aims of the Experiment

This experiment aims to analyze the effect of different social environments of non-native speakers of English on their word associations.

Methods of the Experiment

In the experiment, 30 non-native speakers of English aged 18 to 30 will be asked to tell the first word they can think of when they read the selected primes. Among the participants, 15 of them are Hong Kong people whilst 15 of them are non-Hong Kong people.

The 15 words that are chosen to be the primes are listed in Table 1. They are either simple English words or well-known landmarks or characters in the world and in popular culture. Hence, the participants should find it simple to identify the meaning of the words used in the experiment. The primes are placed in random sequences when displayed to the participants. There will be 5 nouns, 5 verbs and 5 adjectives selected for the experiment.

Nouns	Verbs	Adjectives
Wuhan	Vote	White
Umbrella	Zoom	Corrupted
Government	Eat	Holy
Notre-Dame	Buy	Empty
Pooh	Stay	Widespread

Table 1

Among the primes, 4 words are selected based on some contemporary global issues, i.e. “Notre-Dame”, “Wuhan”, “stay” and “widespread”, which are related to the fire of Notre-Dame, the Catholic cathedral in Paris, and COVID-19 respectively. The responses of these primes are expected to be similar among participants. Other than that, the prime “umbrella” is selected based on the political environment of Hong Kong, and it is expected that there will be differences in the responses from Hong Kong participants and non-Hong Kong participants. The remaining primes are relatively neutral, and it is expected to receive responses of a wide variety.

There is an attempt to investigate the hypotheses by Read and Harrison, that the responses of L2 speakers are more about phonological links than semantic links (Read, 1993), and that the mental lexicon of the respondents are affected by the culture and social environment (Harrison, 2015).

Results and Discussion of the Experiment

Results

Results of the Word Association Experiment

(Please refer to Appendix B for the detailed experimental results)

Wuhan (Noun)

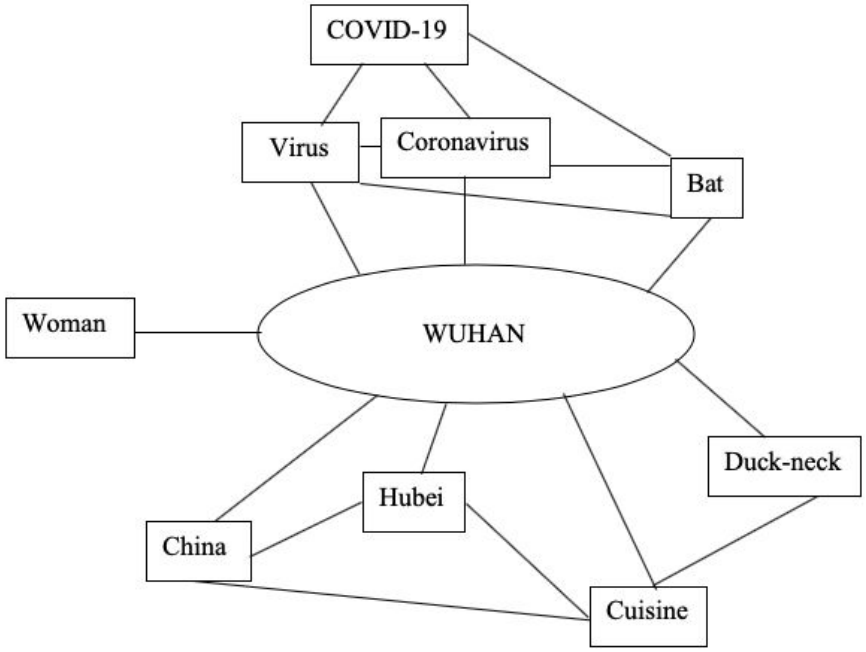

Figure 1

WUHAN	Frequency		Rank of Frequency
	Hong Kong	Non-Hong Kong	
Synonymy	0	0	
Antonymy	0	0	
Incompatibility	0	0	
Collocation	13	10	1
Implication	0	0	
Taxonomic Relation (Superordinate of Prime)	0	0	
Taxonomic Relation (Subordinate of Prime)	0	0	
Attributive Relation	0	0	

Part-whole Relation	1	5	2
Functional Relation	0	0	
Lexeme Level	1	0	3
Total	15	15	

Table 2

Vote (Verb)

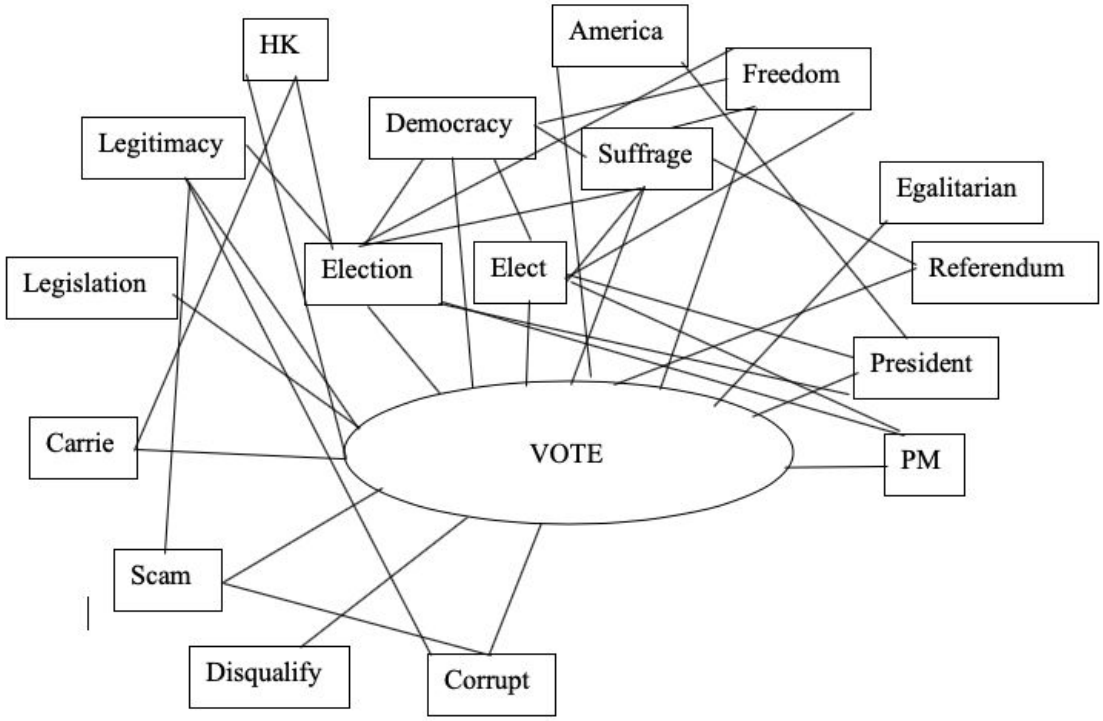

Figure 2

VOTE	Frequency		Rank of Frequency
	Hong Kong	Non-Hong Kong	
Synonymy	1	1	2
Antonymy	0	0	
Incompatibility	0	0	
Collocation	13	14	1

Implication	1	0	3
Taxonomic Relation (Superordinate of Prime)	0	0	
Taxonomic Relation (Subordinate of Prime)	0	0	
Attributive Relation	0	0	
Part-whole Relation	0	0	
Functional Relation	0	0	
Others	0	0	
Total	15	15	

Table 3

White (Adjective)

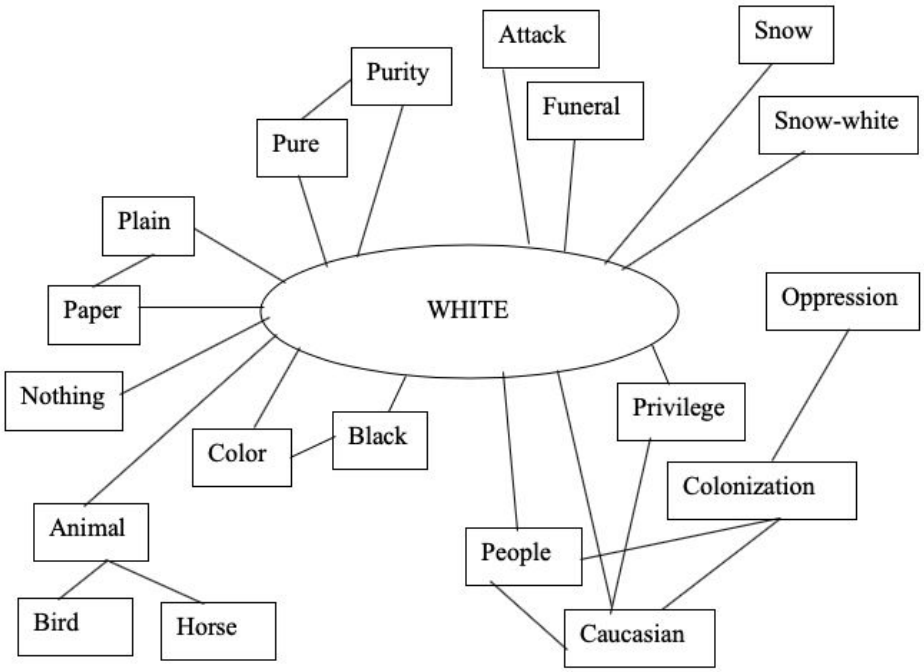

Figure 3

WHITE	Frequency		Rank of Frequency
	Hong Kong	Non-Hong Kong	
Synonymy	0	1	5
Antonymy	3	3	3
Incompatibility	0	0	
Collocation	5	7	1
Implication	0	0	
Taxonomic Relation (Superordinate of Prime)	1	3	4
Taxonomic Relation (Subordinate of Prime)	0	0	

Attributive Relation	6	1	2
Part-whole Relation	0	0	
Functional Relation	0	0	
Others	0	0	
Total	15	15	

Table 4

Umbrella (Noun)

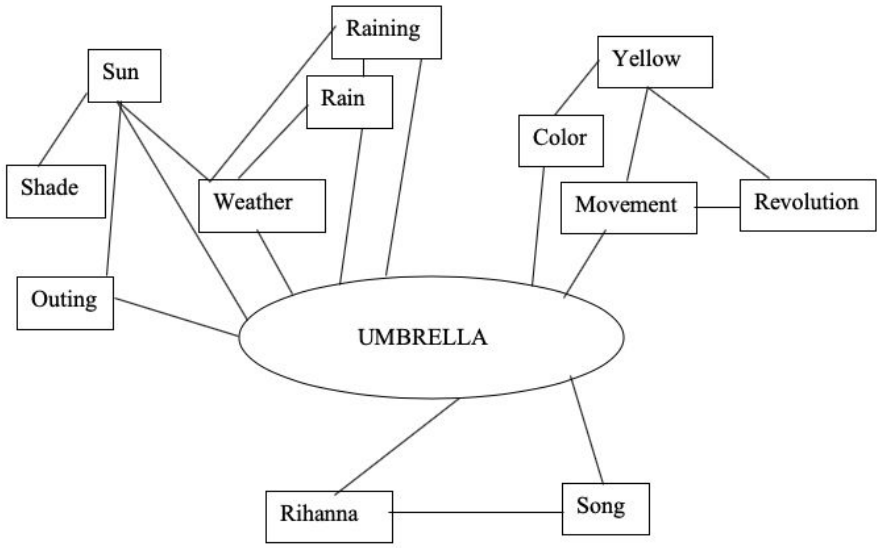

Figure 4

UMBRELLA	Frequency		Rank of Frequency
	Hong Kong	Non-Hong Kong	
Synonymy	0	0	
Antonymy	0	0	
Incompatibility	0	0	
Collocation	14	15	1

Implication	0	0	
Taxonomic Relation (Superordinate of Prime)	1	0	2
Taxonomic Relation (Subordinate of Prime)	0	0	
Attributive Relation	0	0	
Part-whole Relation	0	0	
Functional Relation	0	0	
Others	0	0	
Total	15	15	

Table 5

Zoom (Verb)

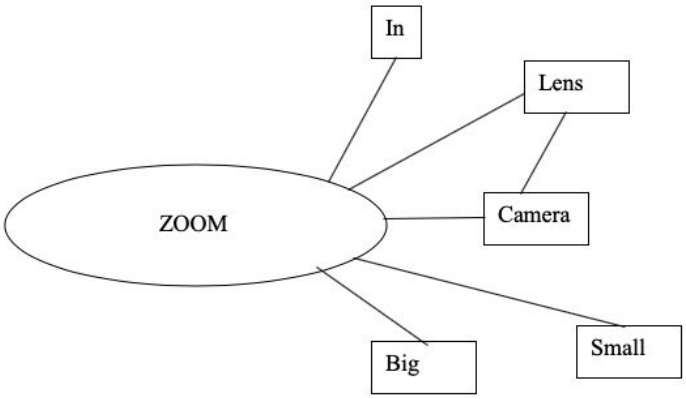

Figure 5

ZOOM	Frequency		Rank of Frequency
	Hong Kong	Non-Hong Kong	
Synonymy	0	0	

Antonymy	0	0	
Incompatibility	0	0	
Collocation	9	11	1
Implication	0	0	
Taxonomic Relation (Superordinate of Prime)	0	0	
Taxonomic Relation (Subordinate of Prime)	0	0	
Attributive Relation	0	0	
Part-whole Relation	0	0	
Functional Relation	6	4	2
Others	0	0	
Total	15	15	

Table 6

Corrupted (Adjective)

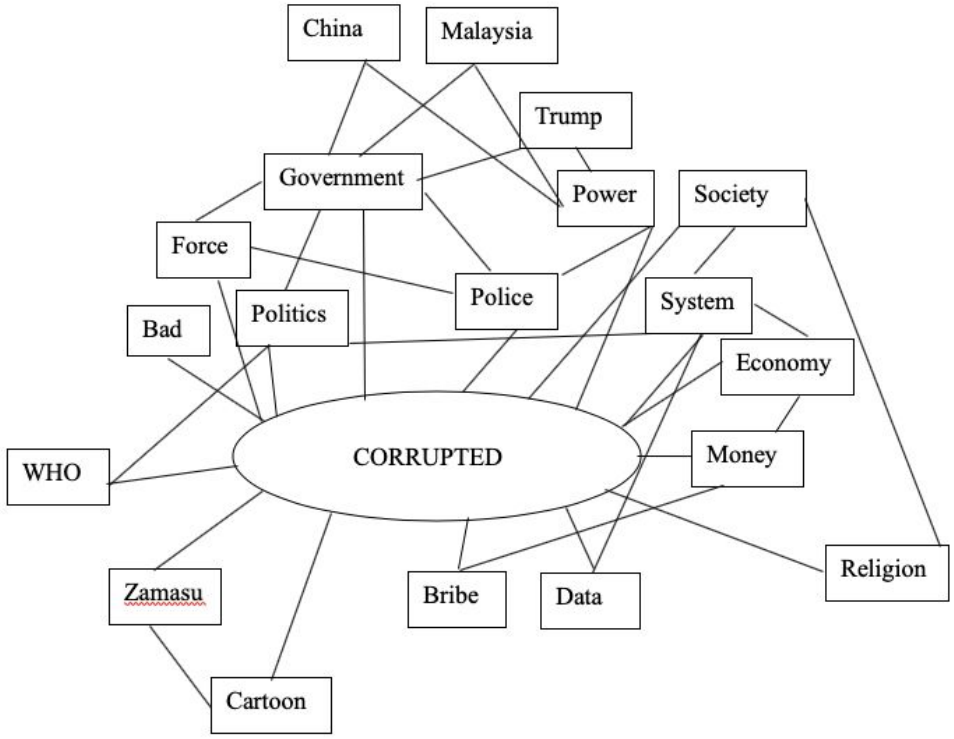

Figure 6

CORRUPTED	Frequency		Rank of Frequency
	Hong Kong	Non-Hong Kong	
Synonymy	0	0	
Antonymy	0	0	
Incompatibility	0	0	
Collocation	5	9	2
Implication	0	0	
Taxonomic Relation (Superordinate of Prime)	0	0	
Taxonomic Relation (Subordinate of Prime)	0	0	

Attributive Relation	10	6	1
Part-whole Relation	0	0	
Functional Relation	0	0	
Others	0	0	
Total	15	15	

Table 7

Government (Noun)

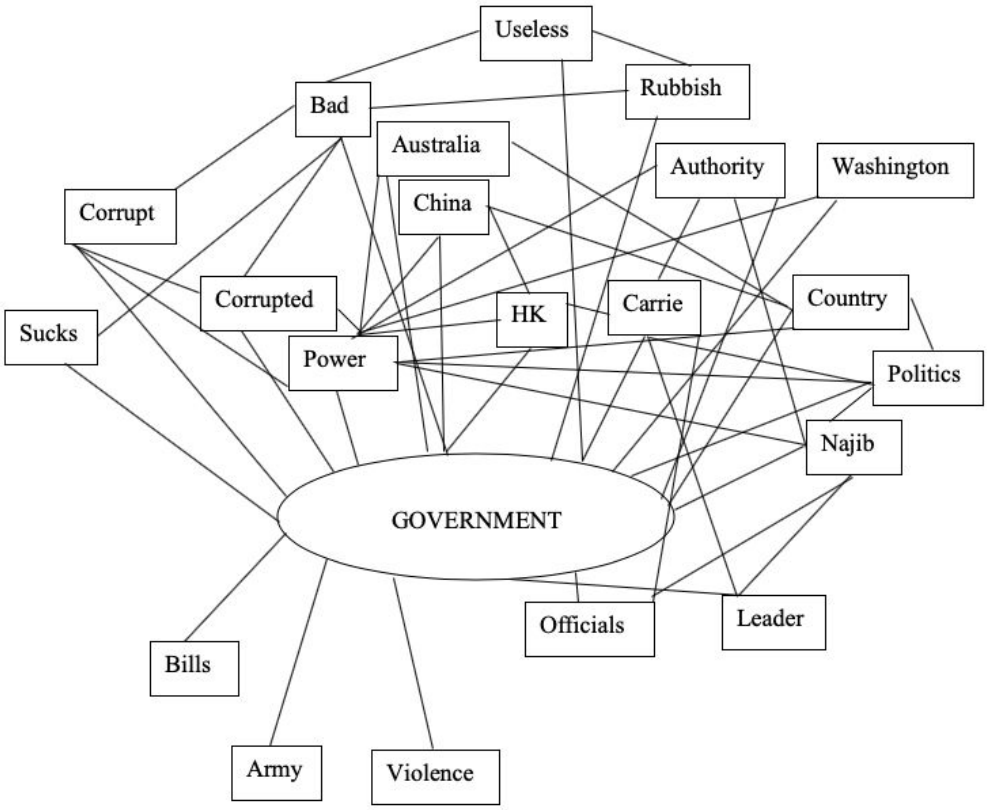

Figure 7

GOVERNMENT	Frequency		Rank of Frequency
	Hong Kong	Non-Hong Kong	

Synonymy	0	0	
Antonymy	0	0	
Incompatibility	0	0	
Collocation	8	8	1
Implication	0	0	
Taxonomic Relation (Superordinate of Prime)	3	4	2
Taxonomic Relation (Subordinate of Prime)	4	3	2
Attributive Relation	0	0	
Part-whole Relation	0	0	
Functional Relation	0	0	
Others	0	0	
Total	15	15	

Table 8

Eat (Verb)

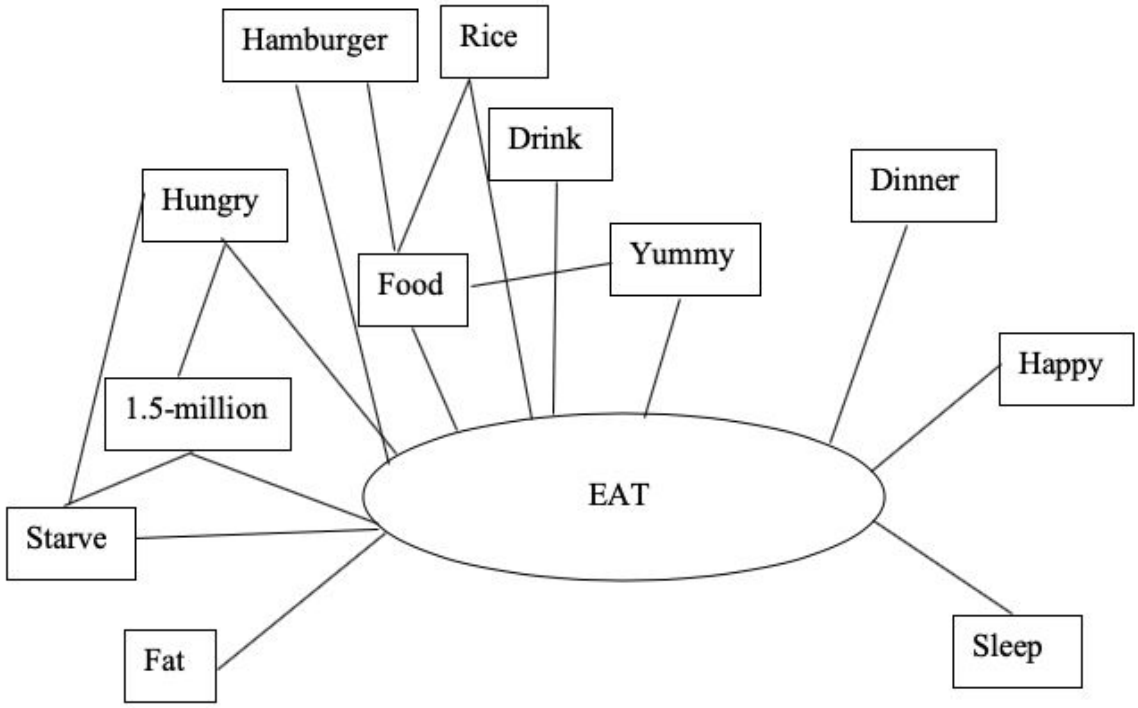

Figure 8

EAT	Frequency		Rank of Frequency
	Hong Kong	Non-Hong Kong	
Synonymy	0	0	
Antonymy	0	0	
Incompatibility	0	0	
Collocation	14	13	1
Implication	0	0	
Taxonomic Relation (Superordinate of Prime)	0	0	
Taxonomic Relation (Coordinate)	1	2	2

Taxonomic Relation (Subordinate of Prime)	0	0	
Attributive Relation	0	0	
Part-whole Relation	0	0	
Functional Relation	0	0	
Others	0	0	
Total	15	15	

Table 9

Holy (Adjective)

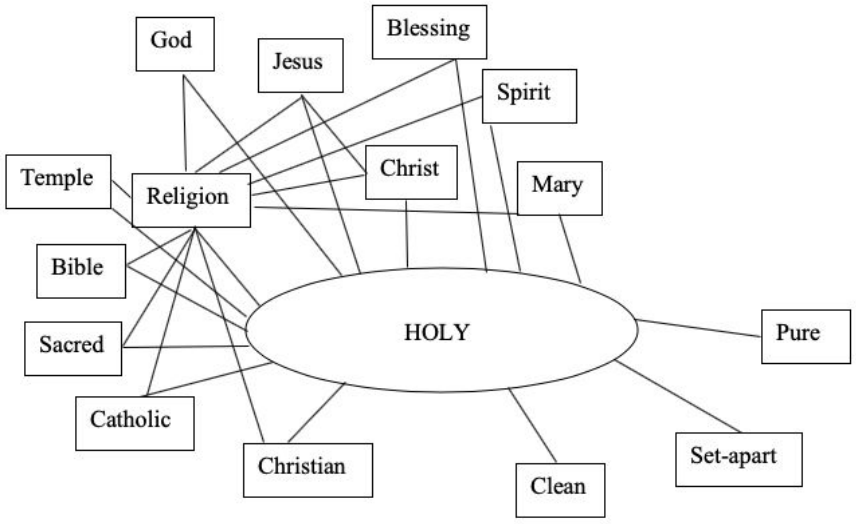

Figure 9

HOLY	Frequency		Rank of Frequency
	Hong Kong	Non-Hong Kong	
Synonymy	1	0	3
Antonymy	0	0	

Incompatibility	0	0	
Collocation	7	11	1
Implication	0	0	
Taxonomic Relation (Superordinate of Prime)	0	0	
Taxonomic Relation (Subordinate of Prime)	0	0	
Attributive Relation	7	4	2
Part-whole Relation	0	0	
Functional Relation	0	0	
Others	0	0	
Total	15	15	

Table 10

Notre-Dame (Noun)

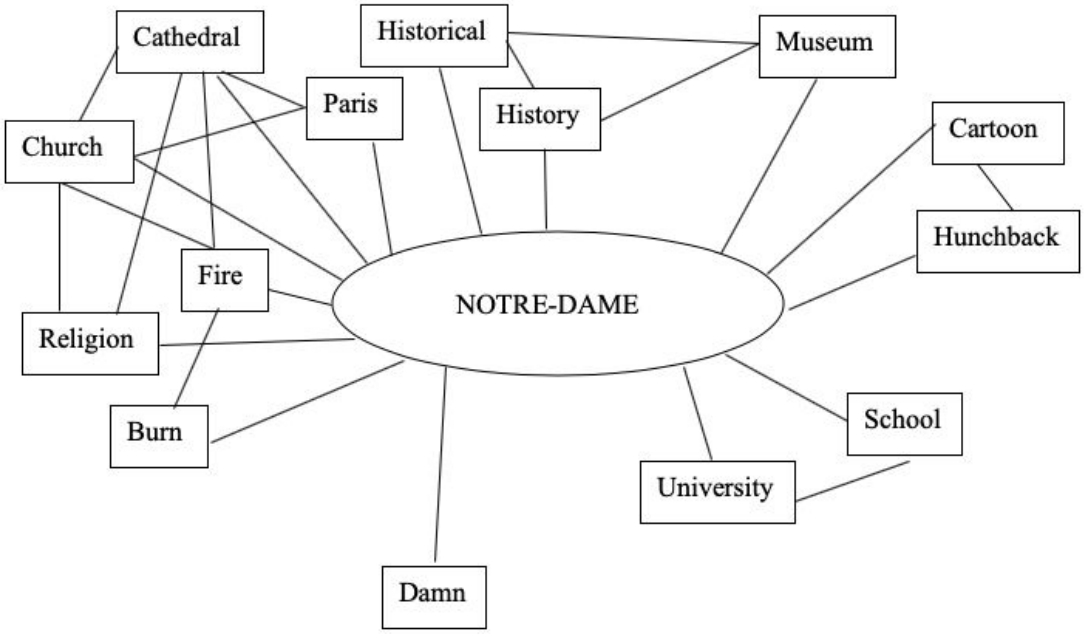

Figure 10

NOTRE-DAME	Frequency		Rank of Frequency
	Hong Kong	Non-Hong Kong	
Synonymy	0	0	
Antonymy	0	0	
Incompatibility	0	0	
Collocation	13	8	1
Implication	0	0	
Taxonomic Relation (Superordinate of Prime)	0	7	2
Taxonomic Relation (Subordinate of Prime)	0	0	
Attributive Relation	0	0	

Part-whole Relation	0	0	
Functional Relation	0	0	
Lexeme Level	2	0	3
Total	15	15	

Table 11

Buy (Verb)

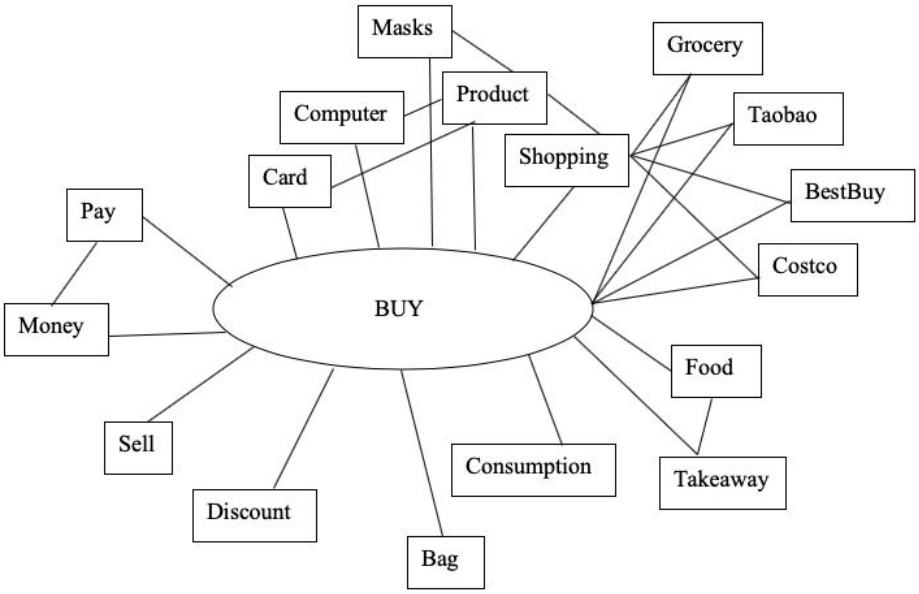

Figure 11

BUY	Frequency		Rank of Frequency
	Hong Kong	Non-Hong Kong	
Synonymy	0	0	
Antonymy	2	4	2
Incompatibility	0	0	
Collocation	13	11	1

Implication	0	0	
Taxonomic Relation (Superordinate of Prime)	0	0	
Taxonomic Relation (Subordinate of Prime)	0	0	
Attributive Relation	0	0	
Part-whole Relation	0	0	
Functional Relation	0	0	
Others	0	0	
Total	15	15	

Table 12

Empty (Adjective)

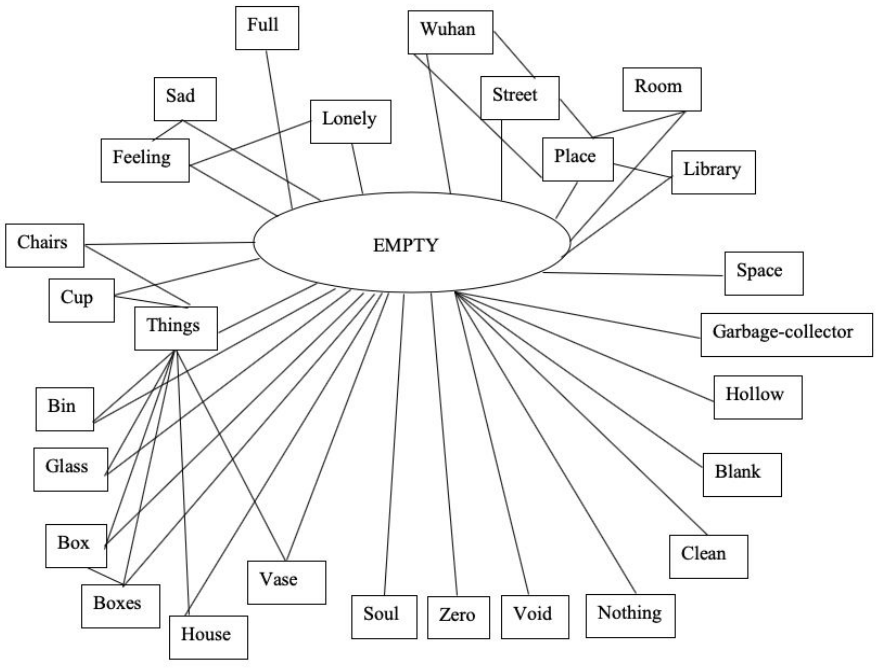

Figure 12

EMPTY	Frequency		Rank of Frequency
	Hong Kong	Non-Hong Kong	
Synonymy	2	4	2
Antonymy	2	1	4
Incompatibility	0	0	
Collocation	1	3	3
Implication	0	0	
Taxonomic Relation (Superordinate of Prime)	0	0	
Taxonomic Relation (Subordinate of Prime)	0	0	
Attributive Relation	10	7	1
Part-whole Relation	0	0	
Functional Relation	0	0	
Others	0	0	
Total	15	15	

Table 13

Pooh (Noun)

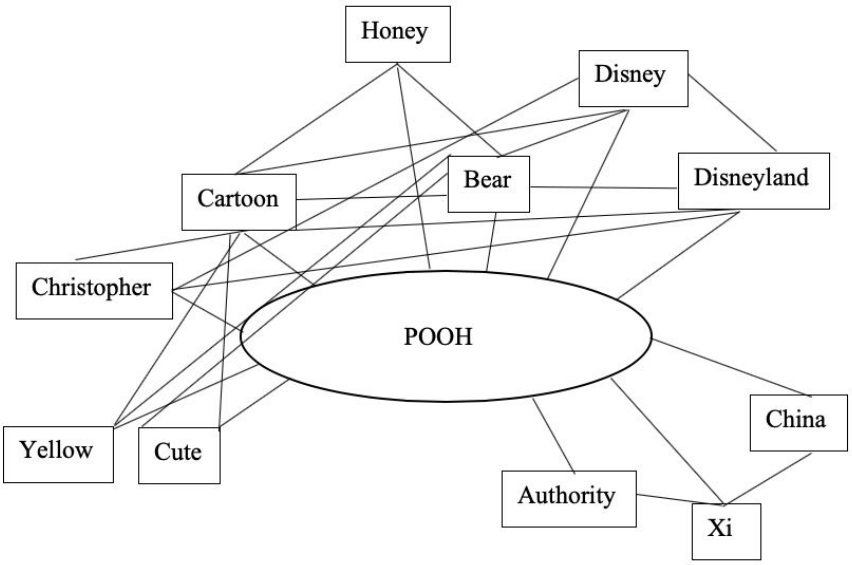

Figure 13

Pooh	Frequency		Rank of Frequency
	Hong Kong	Non-Hong Kong	
Synonymy	0	0	
Antonymy	0	0	
Incompatibility	0	0	
Collocation	10	8	1
Implication	0	0	
Taxonomic Relation (Superordinate of Prime)	2	3	2
Taxonomic Relation (Coordinate)	2	3	2
Taxonomic Relation (Subordinate of Prime)	0	0	
Attributive Relation	1	1	3
Part-whole Relation	0	0	

Functional Relation	0	0	
Others	0	0	
Total	15	15	

Table 14

Stay (Verb)

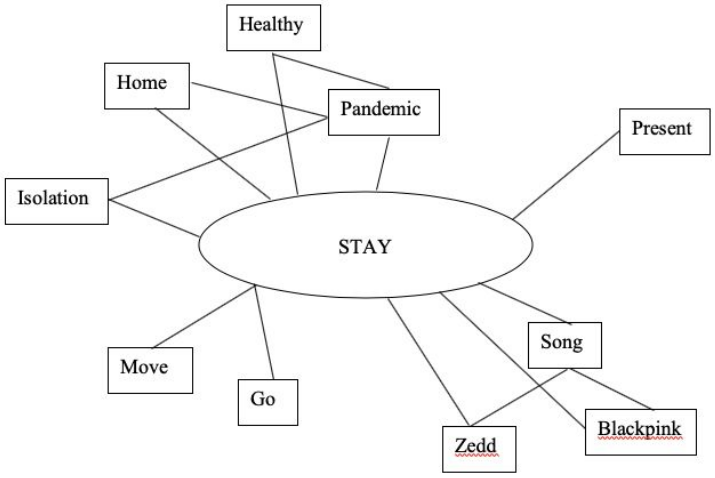

Figure 14

STAY	Frequency		Rank of Frequency
	Hong Kong	Non-Hong Kong	
Synonymy	0	0	
Antonymy	1	1	2
Incompatibility	0	0	
Collocation	14	14	1
Implication	0	0	
Taxonomic Relation	0	0	

(Superordinate of Prime)			
Taxonomic Relation (Subordinate of Prime)	0	0	
Attributive Relation	0	0	
Part-whole Relation	0	0	
Functional Relation	0	0	
Others	0	0	
Total	15	15	

Table 15

Widespread (Adjective)

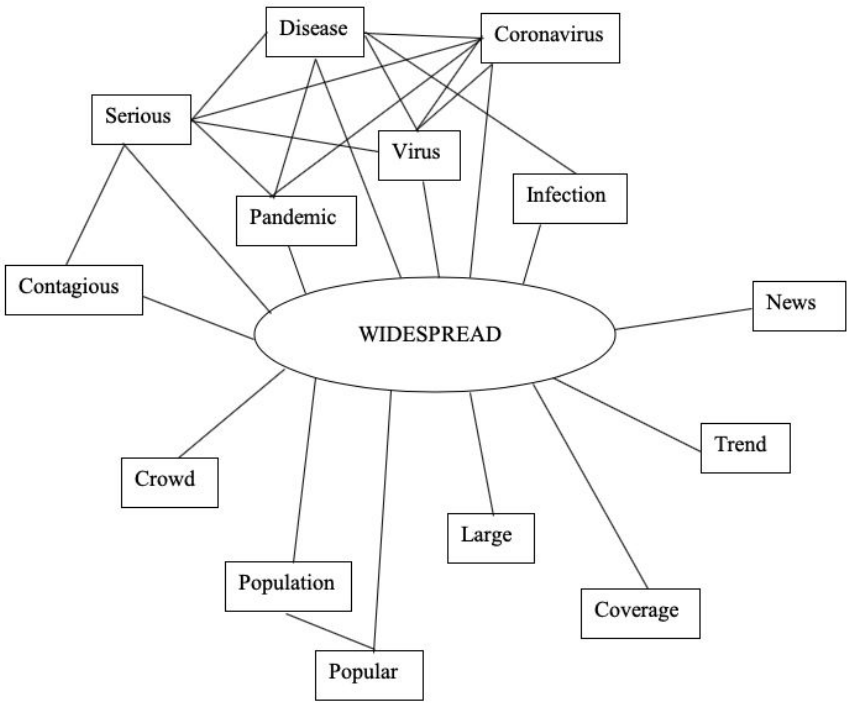

Figure 15

WIDESPREAD	Frequency		Rank of Frequency
	Hong Kong	Non-Hong Kong	
Synonymy	0	1	3
Antonymy	0	0	
Incompatibility	0	0	
Collocation	4	4	2
Implication	0	0	
Taxonomic Relation (Superordinate of Prime)	0	0	
Taxonomic Relation (Subordinate of Prime)	0	0	
Attributive Relation	11	10	1
Part-whole Relation	0	0	
Functional Relation	0	0	
Others	0	0	
Total	15	15	

Table 16

Comparison of Syntactic Categories

NOUNS	Frequency	Rank of Frequency
Synonymy	0	
Antonymy	0	
Incompatibility	0	
Collocation	97	1
Implication	4	6
Taxonomic Relation (Superordinate of Prime)	20	2
Taxonomic Relation (Coordinate)	5	5
Taxonomic Relation (Subordinate of Prime)	7	4
Attributive Relation	4	6
Part-whole Relation	10	3
Functional Relation	0	
Lexeme Level	3	7
Total	150	

Table 17

VERBS	Frequency	Rank of Frequency
Synonymy	2	5
Antonymy	8	3
Incompatibility	0	
Collocation	126	1
Implication	1	
Taxonomic Relation (Superordinate of Prime)	0	
Taxonomic Relation (Coordinate)	3	4

Taxonomic Relation (Subordinate of Prime)	0	
Attributive Relation	0	
Part-whole Relation	0	
Functional Relation	10	2
Lexeme Level	0	
Total	150	

Table 18

ADJECTIVES	Frequency	Rank of Frequency
Synonymy	9	3
Antonymy	9	3
Incompatibility	0	
Collocation	57	2
Implication	0	
Taxonomic Relation (Superordinate of Prime)	4	4
Taxonomic Relation (Coordinate)	0	
Taxonomic Relation (Subordinate of Prime)	0	
Attributive Relation	71	1
Part-whole Relation	0	
Functional Relation	0	
Lexeme Level	0	
Total	150	

Table 19

Discussion

According to the experimental results, the vast majority of responses by the participants are having a semantic link with the prime, with only 0.67% of the total responses, i.e. 3 out of 450 responses, are having a phonological link. The finding contradicts with the claim by Read (1993) that non-native speakers tend to come up with words with phonological links to the stimulus words. However, the findings resonate with the argument by Harrison (2015) that the associative tendencies are cultural-specific. For instance, 80% of Hong Kong participants linked the term "umbrella" with the political movement in 2014 in Hong Kong, coming up with responses like "yellow", "movement", "revolution", etc., whilst the non-Hong Kong participants tended to come up with words related to occasions where umbrellas are used or its usage, such as "rain", "shade", "outing", etc..

It is worth noting that the noun and verb primes have the vast majority of responses from the participants by collocation association, which accounts for 64.7% and 84% respectively. Whilst that of adjectives is 38%, much lower than the two other syntactic categories. Moreover, although the responses by participants of different places of origin may differ, a similar ratio of sense relations can be observed from the responses. For instance, with reference to the results of the prime "umbrella", there are 93% and 100% of Hong Kong and non-Hong Kong participants coming up with a response by collocation respectively, whilst the responses can be very different.

The experimental findings will be analyzed in detail in the following sections.

Discussion on the Comparison of Syntactic Categories

To commence with, in accordance with Tables 17 and 18, there are 64.7% and 84% of responses by collocation in the noun and verb categories respectively. The results resonate with the claim by Rothman (2009) that L2 speakers tend to provide responses of collocation associations. It is suggested that one of the reasons behind the significant proportion of responses by collocation in the syntactic categories of noun and verb is possibly due to the loose restrictions of the words that can be considered to have collocation associations. In contrast, the other sense relations, such as synonymy and antonymy, have a bold and clear definition. Hence, fewer words can align with the definition of these sense relations. For instance, in the noun term "umbrella", except the response of "song", the remaining 96.7% of responses are of collocation relation, such as "movement", "Rihanna" and "rain". In this case, except the word "song" that can be interpreted as a hypernym when "umbrella" is interpreted as a song instead of a tool, the other responses cannot align with the definitions of any of the sense relations except collocation. Thus, the loose definition of collocation association contributes to its abundance in the experimental results. The same conditions applied to the verb category. Therefore, it is proposed that the nature of the sense relation of collocation is the major reason behind its relatively high occurrence in the noun and verb syntactic categories.

The same situation does not apply in the case of the adjective category due to the nature of English adjectives. From the data collected, only 38% of responses from the adjective syntactic category are considered to have a collocation association with the prime. Instead, there is 47.3% of responses being considered as having an attributive relation with the prime, which is the sense relation with the highest frequency among prime adjectives. It is proposed that this is because English adjectives are words used to describe something, and when the response of the

participants is an object or a noun that can be described by the prime adjective logically, the response will have an attributive relation with the prime, since the prime adjective is an attribute, i.e. feature, of the noun in the response. For instance, in the term “holy”, responses such as “spirit” and “shit” are objects that are described by the prime adjective “holy”. In this sense, “holy” becomes an attribute of “spirit” and “shit”. Hence, they have an attributive relation with the prime. Thus, the uniqueness of adjectives has led to a much higher occurrence of responses of attributive relations in this syntactic category. Although attributive relation is more abundant than collocation association in the adjective syntactic category, collocation association is still the sense relation of the second-highest frequency due to its loose definition as mentioned above.

Next, in accordance with Table 17, there are 6.7% of responses that have a part-whole relation with the prime noun, in which there is none of this sense relation in the case for the verb and adjective syntactic categories. It is proposed that this is because it is possible for objects to be a part of another object or to include other objects inside. For instance, in the term “Wuhan”, there are 4 respondents answering “China” and 2 respondents answering “Hubei”. Wuhan is a city located in Hubei Province and a city located in China at the same time, so it possesses a part-whole relation with the responses “Hubei” and “China” as well. In this result, it indicates that this is a unique characteristic that nouns possess, as it is impossible for verbs and adjectives to have a part-whole relation with other words due to the nature of the syntactic categories.

Moreover, with reference to Table 17, there are 21.3% of responses that have a taxonomic relation with the prime noun. The frequency of occurrence of this sense relation in the syntactic category of noun is far higher than that of verb and adjective, which have only fewer than 6.7% of responses with this sense relation. It is suggested that this phenomenon is caused by

the possibility of organization of nouns in a hierarchical structure. For example, in the term "Notre-Dame", responses such as "cathedral" and "university" are hypernyms of the prime noun, since Notre-Dame can be a cathedral and a university. The example demonstrates the possibility of organizing nouns in a hierarchical structure. Hence, this nature of nouns explains the results of the experiment. Since there is a relatively lower tendency for verbs and adjectives to be organized in a hierarchical structure, the occurrence of the sense relation of taxonomic relations tend to be significantly lower than that of the noun category.

Furthermore, in Table 18, there are 6.7% of responses that are with a functional relation with the prime verbs. In a functional relation, the verb is the function of the noun. For example, in the term "zoom", responses such as "camera" and "lens" are nouns that can be used to perform the function of "zoom". Hence, they have a functional relation with "zoom". Thus, the presence of a verb in a functional relation is important. Therefore, this explains the experimental results that functional relations only occur in the syntactic category of verb.

Discussion on the Primes Related to Contemporary Global Issues

As mentioned above, the terms "Wuhan", "stay", "widespread" and "Notre-Dame" are related to COVID-19 and the fire of the Notre-Dame catholic cathedral in Paris, which are both global issues, and it is expected to receive similar answers from the respondents.

According to the experimental results, 70% of responses of "Wuhan" are words like "virus", "coronavirus", "COVID-19", etc.; 83.3% of responses of "stay" are words like "home", "healthy", "isolation", etc.; 73% of responses of "widespread"are words like "virus", "pandemic", "disease", etc.; and 36.7% of responses of "Notre-Dame" are words like "fire" and "burn".

The results of the words “Wuhan”, “stay” and “widespread” align with the expected outcome. This may be related to the high frequency of occurrence of the related reports on COVID-19 around the world in early 2020. When stimulus words such as “Wuhan” and “stay” are told, the respondents immediately come up with other significant words related to the pandemic.

However, the results of “Notre-Dame” deviate from the expected outcome. Although there are 36.7% responses on the fire accident, some respondents provide answers about the building and its location instead, such as “Paris”, “historical” and “religion”. It is worth to note that there are 16.7% of respondents providing answers related to academic institutes, such as “university” and “school”. This may be caused by the differences in understanding on the term “Notre-Dame” between the participants and me. The cause of the differences in understanding may be due to the different social and cultural environments between the participants and me, since the participants providing these answers are the non-Hong Kong participants. This will be further elaborated in the next section.

Discussion on the Primes Related to Specific Social and Cultural Environments

The term “umbrella” is explicitly included to test the relationship between the mental lexicon and the social and cultural environment. According to the results, 43% of responses are words related to the Umbrella Movement in 2014 in Hong Kong, such as “movement”, “revolution” and “yellow”. Among the Hong Kong participants, 86.7% of responses are related to the social movement. Meanwhile, the non-Hong Kong participants only provide words related to the function of umbrella and its usage, such as “rain” and “shade”. Hence, the findings align with the expected results.

Other than “umbrella”, the effect of social and cultural differences can also be reflected in “white” and “Notre-Dame” to a small extent. Although these two terms are not designed for testing the relationship between the mental lexicon and the social and cultural environment, the results obtained demonstrate some answers that require certain cultural-specific background information to understand. For instance, there are 13% of Hong Kong respondents answering “attack” when they heard the word “white”. It is assumed that they may be referring to the 2019 Yuen Long Attack that happened on 21 July 2019 in Hong Kong. In this sense, the term “white” indicates the attackers who were dressing in white in the event. Other than that, there are 26.7% of non-Hong Kong respondents answering “university” or “school” when they heard the word “Notre-Dame”. After asking for some clarifications and conducting some research, it is suggested that the “Notre-Dame” the respondents are referring to is The University of Notre-Dame Australia instead of the Catholic cathedral in Paris. Since understanding the social environment and certain cultures is a prerequisite before it is possible to understand the meanings of “white” and “Notre-Dame” in the above cases, it is said that these interpretations are cultural-specific. Hence, the experimental results resonate with the claim by Harrison (2015) that the mental lexicon of people is related to the cultural and social environment they are immersed in.

Creation of Word Games

Two word games are created based on the primes in the experiment and the responses of the participants.

Introduction of Word Game 1: The Guessing Race

(Please refer to Appendix D for detailed game description)

Genre of Game:	English Learning for Non-Native English Speakers and Entertainment
Target Players:	Teenagers aged between 10 to 15
Number of Players:	2
Setting:	1x Container of All Game Materials 2x Chess 10x Yellow Card (Related Words) 10x White Card (Answers) 10x Red Card (Explicit Hints, i.e. Lexeme Level Similar Pronunciation) 1x Chess Board

Table 20

The Guessing Race is designed to strengthen the English proficiency of the players. Some related words will be provided to the players and they are given one chance to guess what the answer is in every turn. The player who can reach the end faster will be the winner of the game. The purpose of designing this game as a competition between two teens is to encourage them to try to link the related words provided to them together and come up with a proposed answer to the question, so that their skills of word association related to syntactic categories can be drastically improved. Moreover, the competition makes the game more interesting and attractive, since the competition can be a motivation for the player to participate in this game. It is suggested that this game can strengthen the participants' word association to the selected words.

Introduction of Word Game 2: "Who is the Traitor" Game

(Please refer to Appendix D for detailed game description)

Genre of Game:	English Learning for Non-Native English Speakers and Entertainment
Target Players:	Teenagers aged between 10 to 25

Number of Players:	5-10
Setting:	1x Container of All Game Materials 50x White Cards (Each with 2 hints, 10 cards for 1 prime, good side) 20x White Cards (Each with 2 hints, 10 cards for 1 prime, traitor side) 7x Yellow Cards (Answers)

Table 21

"Who is the Traitor" Game is designed to strengthen the English proficiency of teenagers as well. The players will be divided into two teams, one on the good side and one on the bad side. They will be given hints on their prime but not the answer. The good side has to find out the traitors to win, and the traitor side has to find out the answer of the good side to win. It is suggested that by including English learning materials and related things in collective games involving many teenagers, they can enhance their English proficiency and play with their peers at the same time. Moreover, as only hints are provided to every player, they have to also guess their primes during the game so that they can easily identify their teammates and win the game together. Each player will be given 30 seconds to speak out to give hints to the others, and the others will listen and also speak out when it is their turn. The players will decide on a player to be voted out. If the good side voted all people from the traitor side out, then the good side wins; if the traitor side can guess the prime of the good side accurately, then the traitor side wins. The hints of each player will be different, although they may be on the same side, so as to increase the difficulty of the game and to make the game more interesting.

Conclusion

This paper investigates the relationship between mental lexicon, the age and place of origin and the social and cultural environment among non-native L2 English speakers, and found out that the social and cultural environment impact on the mental lexicon of a person. Moreover,

two word games are created based on the experimental results so as to facilitate the enhancement of the English proficiency of non-native L2 English speakers and arouse their interests in learning English.

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Appendix A

Background Information of Participants

Participant	Age	Gender	Occupation	Place of Residence	Place of Origin
Participant 1	20	Male	Student	Australia	Hong Kong
Participant 2	19	Male	Student	Hong Kong	Hong Kong
Participant 3	18	Male	Student	Hong Kong	Hong Kong
Participant 4	21	Male	Student	Hong Kong	Hong Kong
Participant 5	22	Male	Student	Hong Kong	Hong Kong
Participant 6	18	Male	Student	Mainland China	Hong Kong
Participant 7	18	Male	Student	Hong Kong	Hong Kong
Participant 8	20	Male	Student	Hong Kong	Hong Kong
Participant 9	20	Female	Student	Hong Kong	Hong Kong
Participant 10	20	Male	Student	Hong Kong	Hong Kong
Participant 11	19	Male	Student	Hong Kong	Hong Kong
Participant 12	19	Female	Student	Hong Kong	Hong Kong
Participant 13	20	Female	Student	United Kingdom	Hong Kong

Participant 14	20	Female	Student	United States	Macao
Participant 15	18	Male	Student	Australia	Malaysia
Participant 16	18	Female	Student	Australia	Vietnam
Participant 17	19	Female	Student	Australia	Malaysia
Participant 18	19	Female	Student	Australia	Malaysia
Participant 19	25	Male	N/A	Singapore	Singapore
Participant 20	20	Female	Student	Australia	South Korea
Participant 21	19	Male	Student	Australia	Japan
Participant 22	19	Female	Student	Australia	Malaysia
Participant 23	19	Female	Student	Malaysia	Malaysia
Participant 24	19	Male	Student	Australia	Malaysia
Participant 25	20	Male	Student	Hong Kong	Hong Kong
Participant 26	21	Male	Student	United States	Mainland China
Participant 27	21	Male	Student	United States	Macao
Participant 28	19	Female	Student	Hong Kong	Hong Kong
Participant 29	22	Male	Student	Mainland China	Mainland China

Participant 30	24	Female	Student	Mainland China	Mainland China

Appendix B

Responses of Participants by Respondent and by Selected Phrase

In this appendix, the selected phrases for the experiment will be listed in Part A, which consists of 15 English words, with 5 nouns, 5 verbs and 5 adjectives respectively.

Then, the responses of the participants will be displayed in Part B, and the answers are shown by respondents, which means that each set of answers of the same respondent will be shown in the same table. Hence, there will be 30 tables, since one respondent's answer will be in one table.

Other than that, the responses of the participants will also be displayed in Part C, but the answers are shown by responses, which means that the answers for each selected phrase will be shown in the same table. Hence, there will be 15 tables, since one selected word's answers will be grouped in one table.

Lastly, the unrepeated list of responses by the participants will be recorded in Part D for easier and more convenient analysis. There will be 5 tables here, since one table will be drawn for one prime and its answers. The sense relations related to the respondents' answers will also be specified in this section.

Part A – The Selected Phrases

Nouns	Verbs	Adjectives
Wuhan	Vote	White
Umbrella	Zoom	Corrupted
Government	Eat	Holy
Notre-Dame	Buy	Empty
Pooh	Stay	Widespread

Remarks:

Since there may be a relationship between the words “corrupted” and “government”, the sequence of words are shifted to “corrupted” → “eat” → “holy” → “government” when the word association experiment is conducted, so as to minimize the effect of possibly correlated words. Please refer to the PowerPoint used for the experiment attached below.

However, as to make the recording and analysis easier, the sequence of the words remains as shown in the above table after I collected the results with the new sequence, so that the nouns, verbs and adjectives can form three separate columns.

Part B – The Responses of Participants by Respondent

Participant 1

Nouns	Verbs	Adjectives
Virus	Democracy	Black
Movement	Lens	Police
Carrie	Rice	Jesus
Fire	Discount	Soul
Xi	Home	Disease

Participant 2

Nouns	Verbs	Adjectives
Virus	Election	Paper
Raining	In	WHO
Rubbish	Rice	Catholic
Historical	Computer	Room
Disneyland	Home	Population

Participant 3

Nouns	Verbs	Adjectives
Virus	Suffrage	Attack
Yellow	Big	China
Carrie	1.5-million	Mary
Fire	Sell	Zero
Christopher	Home	Pandemic

Participant 4

Nouns	Verbs	Adjectives
China	Freedom	Plain
Movement	Big	Money
Authority	Fat	Pure
Religion	Product	Full
Yellow	Move	Serious

Participant 5

Nouns	Verbs	Adjectives
Virus	Election	Black
Revolution	Big	Government
HK	Sleep	Spirit
Fire	Pay	Chairs
China	Home	Disease

Participant 6

Nouns	Verbs	Adjectives
Woman	HK	Nothing
Outing	Small	Power
HK	Hungry	Blessing
School	Food	Lonely
China	Home	Crowd

Participant 7

Nouns	Verbs	Adjectives
COVID-19	Carrie	Pure
Yellow	Camera	Zamasu
Corrupted	Food	Sacred
Paris	Sell	Space
China	Healthy	Disease

Participant 8

Nouns	Verbs	Adjectives
Bat	Legitimacy	Purity
Revolution	In	Government
Violence	Fat	Spirit
Hunchback	Consumption	Clean
Authority	Isolation	Pandemic

Participant 9

Nouns	Verbs	Adjectives
Coronavirus	Election	Snow
Rain	In	Government
Rubbish	Happy	Bible
Paris	Money	Blank
Cute	Home	Popular

Participant 10

Nouns	Verbs	Adjectives
Virus	Disqualify	People
Yellow	Camera	Police
Corrupted	Food	Shit
Paris	Food	House
Yellow	Home	News

Participant 11

Nouns	Verbs	Adjectives
Virus	Election	Black
Rain	Camera	Government
Power	Drink	Shit
Damn	Shopping	Full
Disney	Go	Pandemic

Participant 12

Nouns	Verbs	Adjectives
Virus	Election	Horse
Yellow	In	Money
Carrie	Hamburger	Shit
Damn	Bag	Box
Christopher	Home	Virus

Participant 13

Nouns	Verbs	Adjectives
Coronavirus	Legislation	Color
Song	In	Data
Officials	Yummy	Shit
Fire	Money	Room
Xi	Home	Pandemic

Participant 14

Nouns	Verbs	Adjectives
Coronavirus	America	Snow-White
Yellow	Camera	Trump
Washington	Hamburger	Shit
Fire	Costco	Garbage-collector
Christopher	Home	Coronavirus

Participant 15

Nouns	Verbs	Adjectives
Coronavirus	Election	Caucasian
Rihanna	Big	Malaysia
Australia	Food	Jesus
Burn	Shopping	Street
Christopher	Zedd	Virus

Participant 16

Nouns	Verbs	Adjectives
Coronavirus	Election	Colonization
Rain	Camera	Economy
Power	Food	Jesus
University	Sell	Sad
Honey	Home	Contagious

Participant 17

Nouns	Verbs	Adjectives
Coronavirus	Egalitarian	Color
Rain	Camera	Money
Politics	Food	Jesus
University	Shopping	Hollow
Honey	Home	Infection

Participant 18

Nouns	Verbs	Adjectives
Virus	Scam	Pure
Rain	Big	Bad
Najib	Yummy	Jesus
Paris	Money	Lonely
Disney	Blackpink	Large

Participant 19

Nouns	Verbs	Adjectives
China	Election	Pure
Shade	Big	Bad
Bills	Hungry	Set-apart
Cathedral	Money	Nothing
Bear	Present	Pandemic

Participant 20

Nouns	Verbs	Adjectives
Coronavirus	President	People
Rain	Lens	Religion
Country	Food	God
University	Card	Bin
Honey	Home	Virus

Participant 21

Nouns	Verbs	Adjectives
China	President	Color
Rain	In	Society
Corrupt	Food	Pure
University	Sell	Glass
Honey	Home	Virus

Participant 22

Nouns	Verbs	Adjectives
China	Elect	Black
Rain	Big	Government
Leader	Food	Clean
History	Grocery	Cup
Honey	Home	Coverage

Participant 23

Nouns	Verbs	Adjectives
Virus	PM	Bird
Rain	Big	System
Bad	Food	Shit
Church	Food	Vase
Honey	Home	Pandemic

Participant 24

Nouns	Verbs	Adjectives
Virus	Corrupt	Priviledge
Rihanna	Camera	Malaysia
Authority	Dinner	Christian
Cathedral	Takeaway	Library
Cartoon	Home	Trend

Participant 25

Nouns	Verbs	Adjectives
Virus	Election	Black
Movement	In	Force
Useless	Food	Christ
Fire	Sell	Boxes
Disney	Home	Virus

Participant 26

Nouns	Verbs	Adjectives
Duck-neck	President	Color
Sun	Big	Politics
Army	Drink	Bible
Museum	BestBuy	Void
Bear	Home	Virus

Participant 27

Nouns	Verbs	Adjectives
COVID-19	Election	Black
Yellow	Big	China
Sucks	Drink	Spirit
Fire	Sell	Full
Xi	Home	Pandemic

Participant 28

Nouns	Verbs	Adjectives
Coronavirus	Democracy	Attack
Revolution	Camera	Government
Bad	Food	Jesus
Fire	Masks	Street
Xi	Home	Virus

Participant 29

Nouns	Verbs	Adjectives
Hubei	Election	Funeral
Rain	In	Money
China	Hungry	Temple
Fire	Taobao	Wuhan
Cute	Home	Coronavirus

Participant 30

Nouns	Verbs	Adjectives
Hubei	Referendum	Funeral
Rain	Big	Bribe
China	Food	God
Fire	Taobao	Nothing
Christopher	Home	Coronavirus

Part C – The Responses of Participants by Selected Phrase

Term 1 – Wuhan

Virus	Virus	Virus	Virus	Virus
Virus	Virus	Virus	Virus	Virus
Virus	Coronavirus	Coronavirus	Coronavirus	Coronavirus
Coronavirus	Coronavirus	Coronavirus	Coronavirus	COVID-19
COVID-19	China	China	China	China
Hubei	Hubei	Bat	Woman	Duck-neck

Term 2 – Vote

Election	Election	Election	Election	Election
Election	Election	Election	Election	Election
Election	Elect	President	President	President
Democracy	Democracy	Suffrage	Freedom	Egalitarian
Legitimacy	Legislation	Referendum	America	HK
Scam	PM	Corrupt	Disqualify	Carrie

Term 3 – White

Black	Black	Black	Black	Black
Black	Color	Color	Color	Color
Pure	Pure	Purity	Funeral	Funeral
Attack	Attack	Snow-White	Oppression	People
People	Caucasian	Colonization	Priviledge	Snow
Plain	Paper	Bird	Horse	Nothing

Term 4 – Umbrella

Rain	Rain	Rain	Rain	Rain
Rain	Rain	Rain	Rain	Rain
Rain	Raining	Yellow	Yellow	Yellow
Yellow	Yellow	Yellow	Movement	Movement
Movement	Revolution	Revolution	Revolution	Rihanna
Rihanna	Song	Sun	Shade	Outing

Term 5 – Zoom

Big	Big	Big	Big	Big
Big	Big	Big	Big	Big
In	In	In	In	In
In	In	In	In	Camera
Camera	Camera	Camera	Camera	Camera
Camera	Camera	Lens	Lens	Small

Term 6 – Corrupted

Government	Government	Government	Government	Government
Government	Money	Money	Money	Money
China	China	Malaysia	Malaysia	Police
Police	Bad	Bad	Bribe	Power
Politics	Economy	Society	Data	Trump
System	Force	WHO	Zamasu	Religion

Term 7 – Government

Carrie	Carrie	Carrie	Corrupted	Corrupted
Corrupt	Power	Power	Bad	Bad
Rubbish	Rubbish	Authority	Authority	HK
HK	China	China	Australia	Country
Najib	Washington	Politics	Leader	Officials
Bills	Useless	Violence	Army	Sucks

Term 8 – Eat

Food	Food	Food	Food	Food
Food	Food	Food	Food	Food
Food	Food	Drink	Drink	Drink
Hungry	Hungry	Hungry	Yummy	Yummy
Hamburger	Hamburger	Rice	Rice	Fat
Fat	Dinner	Happy	Sleep	1.5-million

Term 9 – Holy

Jesus	Jesus	Jesus	Jesus	Jesus
Jesus	Shit	Shit	Shit	Shit
Shit	Shit	Spirit	Spirit	Spirit
God	God	Bible	Bible	Pure
Pure	Christ	Mary	Catholic	Set-apart
Blessing	Sacred	Christian	Clean	Temple

Term 10 – Notre-Dame

Fire	Fire	Fire	Fire	Fire
Fire	Fire	Fire	Fire	Fire
Paris	Paris	Paris	Paris	University
University	University	University	Cathedral	Cathedral
Damn	Damn	Historical	History	Church
Religion	School	Museum	Burn	Hunchback

Term 11 – Buy

Sell	Sell	Sell	Sell	Sell
Sell	Money	Money	Money	Money
Shopping	Shopping	Shopping	Food	Food
Food	Taobao	Taobao	BestBuy	Costco
Product	Computer	Consumption	Card	Pay
Takeaway	Discount	Bag	Grocery	Masks

Term 12 – Empty

Full	Full	Full	Lonely	Lonely
Street	Street	Room	Room	Nothing
Nothing	Blank	Sad	Zero	Bin
Garbage-collector	Glass	Clean	Box	Boxes
Library	Void	Cup	Hollow	Space
Wuhan	Chairs	Vase	House	Soul

Term 13 – Pooh

Honey	Honey	Honey	Honey	Honey
Honey	Christopher	Christopher	Christopher	Christopher
Christopher	Xi	Xi	Xi	Xi
Disney	Disney	Disney	Disneyland	China
China	China	Bear	Bear	Yellow
Yellow	Cute	Cute	Cartoon	Authority

Term 14 – Stay

Home	Home	Home	Home	Home
Home	Home	Home	Home	Home
Home	Home	Home	Home	Home
Home	Home	Home	Home	Home
Home	Home	Home	Present	Move
Healthy	Isolation	Go	Zedd	Blackpink

Term 15 – Widespread

Pandemic	Pandemic	Pandemic	Pandemic	Pandemic
Pandemic	Pandemic	Virus	Virus	Virus
Virus	Virus	Virus	Virus	Coronavirus
Coronavirus	Coronavirus	Disease	Disease	Disease
Infection	Serious	Crowd	Population	Large
Coverage	Popular	Contagious	News	Trend

Part D – The Unrepeated Lists of the Responses of Participants by Selected Phrase

WUHAN

Response	Frequency	Sense Relations
Virus	11	Collocation
Coronavirus	8	Collocation
China	4	Part-whole Relation
COVID-19	2	Collocation
Hubei	2	Part-whole Relation
Bat	1	Collocation
Woman	1	Lexeme Level
Duck-neck	1	Collocation
TOTAL	30	

VOTE

Response	Frequency	Sense Relations
Election	11	Collocation
President	3	Collocation
Democracy	2	Collocation
Elect	1	Collocation
Suffrage	1	Synonymy
Freedom	1	Implication
Egalitarian	1	Collocation
Legitimacy	1	Collocation
Legislation	1	Collocation
Referendum	1	Synonymy
America	1	Collocation
HK	1	Collocation
Scam	1	Collocation
PM	1	Collocation
Corrupt	1	Collocation
Disqualify	1	Collocation
Carrie	1	Collocation
TOTAL	30	

WHITE

Response	Frequency	Sense Relations
Black	6	Antonymy
Color	4	Taxonomic Relation (Hypernymy)
Pure	2	Collocation
Funeral	2	Collocation
Attack	2	Collocation
People	2	Attributive Relation
Purity	1	Collocation
Caucasian	1	Synonymy
Colonization	1	Collocation
Priviledge	1	Collocation
Oppression	1	Collocation
Snow	1	Attributive Relation
Snow-White	1	Collocation
Plain	1	Attributive Relation
Paper	1	Attributive Relation
Bird	1	Attributive Relation
Horse	1	Attributive Relation
Nothing	1	Collocation
TOTAL	30	

UMBRELLA

Response	Frequency	Sense Relations
Rain	11	Collocation
Yellow	6	Collocation
Movement	3	Collocation
Revolution	3	Collocation
Rihanna	2	Collocation
Raining	1	Collocation
Song	1	Taxonomic Relation (Hypernymy)
Sun	1	Collocation
Shade	1	Collocation
Outing	1	Collocation
TOTAL	30	

ZOOM

Response	Frequency	Sense Relations
Big	10	Collocation
In	9	Collocation
Camera	8	Functional Relation
Lens	2	Functional Relation
Small	1	Collocation
TOTAL	30	

CORRUPTED

Response	Frequency	Sense Relations
Government	6	Attributive Relation
Money	4	Collocation
China	2	Collocation
Malaysia	2	Collocation
Police	2	Attributive Relation
Bad	2	Collocation
Bribe	1	Collocation
Power	1	Attributive Relation
Politics	1	Attributive Relation
Economy	1	Attributive Relation
Society	1	Attributive Relation
Data	1	Attributive Relation
Trump	1	Collocation
System	1	Attributive Relation
Force	1	Attributive Relation
WHO	1	Collocation
Zamasu	1	Collocation
Religion	1	Attributive Relation
TOTAL	30	

GOVERNMENT

Response	Frequency	Sense Relations
Carrie	3	Taxonomic Relation (Hyponymy)
Corrupted	2	Collocation
Power	2	Collocation
Bad	2	Collocation
Rubbish	2	Collocation
Authority	2	Attributive Relation
HK	2	Taxonomic Relation (Hypernymy)
China	2	Taxonomic Relation (Hypernymy)
Corrupt	1	Collocation
Australia	1	Taxonomic Relation (Hypernymy)
Country	1	Taxonomic Relation (Hypernymy)
Najib	1	Taxonomic Relation (Hyponymy)
Washington	1	Taxonomic Relation (Hypernymy)
Politics	1	Collocation
Leader	1	Taxonomic Relation (Hyponymy)
Officials	1	Taxonomic Relation (Hyponymy)
Bills	1	Collocation
Useless	1	Collocation

Violence	1	Collocation
Army	1	Taxonomic Relation (Hyponymy)
Sucks	1	Collocation
TOTAL	30	

EAT

Response	Frequency	Sense Relations
Food	12	Collocation
Drink	3	Taxonomic Relation (Coordinate)
Hungry	3	Collocation
Yummy	2	Collocation
Hamburger	2	Collocation
Rice	2	Collocation
Fat	2	Collocation
Dinner	1	Collocation
Happy	1	Collocation
Sleep	1	Collocation
1.5-million	1	Collocation
TOTAL	30	

HOLY

Response	Frequency	Sense Relations
Jesus	6	Collocation
Shit	6	Attributive Relation
Spirit	3	Attributive Relation
God	2	Collocation
Bible	2	Attributive Relation
Pure	2	Collocation
Catholic	1	Collocation
Christian	1	Collocation
Christ	1	Collocation
Mary	1	Collocation
Set-apart	1	Collocation
Blessing	1	Collocation
Sacred	1	Synonymy
Clean	1	Collocation
Temple	1	Collocation
TOTAL	30	

NOTRE-DAME

Response	Frequency	Sense Relations
Fire	10	Collocation
Paris	4	Part-whole Relation
University	4	Taxonomic Relation (Hypernymy)
Cathedral	2	Taxonomic Relation (Hypernymy)
Damn	2	Lexeme Level
Historical	1	Collocation
History	1	Collocation
Church	1	Taxonomic Relation (Hypernymy)
Religion	1	Collocation
School	1	Collocation
Museum	1	Collocation
Burn	1	Collocation
Hunchback	1	Collocation
TOTAL	30	

BUY

Response	Frequency	Sense Relations
Sell	6	Antonymy
Money	4	Collocation
Shopping	3	Collocation
Food	3	Collocation
Taobao	2	Collocation
BestBuy	1	Collocation
Costco	1	Collocation
Product	1	Collocation
Computer	1	Collocation
Consumption	1	Collocation
Card	1	Collocation
Pay	1	Collocation
Takeaway	1	Collocation
Discount	1	Collocation
Bag	1	Collocation
Grocery	1	Collocation
Masks	1	Collocation
TOTAL	30	

EMPTY

Response	Frequency	Sense Relations
Full	3	Antonymy
Lonely	2	Synonymy
Street	2	Attributive Relation
Room	2	Attributive Relation
Nothing	2	Synonymy
Blank	1	Synonymy
Sad	1	Collocation
Zero	1	Collocation
Bin	1	Attributive Relation
Garbage-collector	1	Collocation
Glass	1	Attributive Relation
Clean	1	Collocation
Box	1	Attributive Relation
Boxes	1	Attributive Relation
Library	1	Attributive Relation
Void	1	Synonymy
Cup	1	Attributive Relation
Hollow	1	Attributive Relation
Space	1	Attributive Relation
Wuhan	1	Collocation
Chairs	1	Attributive Relation
Vase	1	Attributive Relation
House	1	Attributive Relation

Response	Frequency	Sense Relations
Soul	1	Attributive Relation
TOTAL	30	

POOH

Response	Frequency	Sense Relations
Honey	6	Collocation
Christopher	5	Taxonomic Relation (Coordinate)
Xi	4	Collocation
Disney	3	Taxonomic Relation (Hypernymy)
China	3	Collocation
Bear	2	Implication
Yellow	2	Implication
Cute	2	Attributive Relation
Cartoon	1	Taxonomic Relation (Hypernymy)
Authority	1	Collocation
Disneyland	1	Taxonomic Relation (Hypernymy)
TOTAL	30	

STAY

Response	Frequency	Sense Relations
Home	23	Collocation
Present	1	Collocation
Move	1	Antonymy
Healthy	1	Collocation
Isolation	1	Collocation
Go	1	Antonymy
Zedd	1	Collocation
Blackpink	1	Collocation
TOTAL	30	

WIDESPREAD

Response	Frequency	Sense Relations
Pandemic	7	Attributive Relation
Virus	7	Attributive Relation
Coronavirus	3	Attributive Relation
Disease	3	Attributive Relation
Infection	1	Collocation
Serious	1	Collocation
Crowd	1	Collocation
Population	1	Collocation
Large	1	Collocation
Coverage	1	Collocation
Popular	1	Collocation
Contagious	1	Synonymy
News	1	Attributive Relation
Trend	1	Collocation
TOTAL	30	

Appendix C

The Presentation File for the Questions

Attached please find the Google Slides link for the presentation that is used for reference for the participants of this experiment. The file is basically an introduction and guide to the project for the participants of this experiment.

It also assists the participants to answer the questions, since the 15 selected words are typed in the file and the participants can read the words through the screen-sharing function of Skype.

Google Slides Link:

https://docs.google.com/presentation/d/1Yjxx-IlxCA60a-d9dS7SGsKEhRZf6xXKVFQh3dhvwQw/edit?usp=sharing

Appendix D

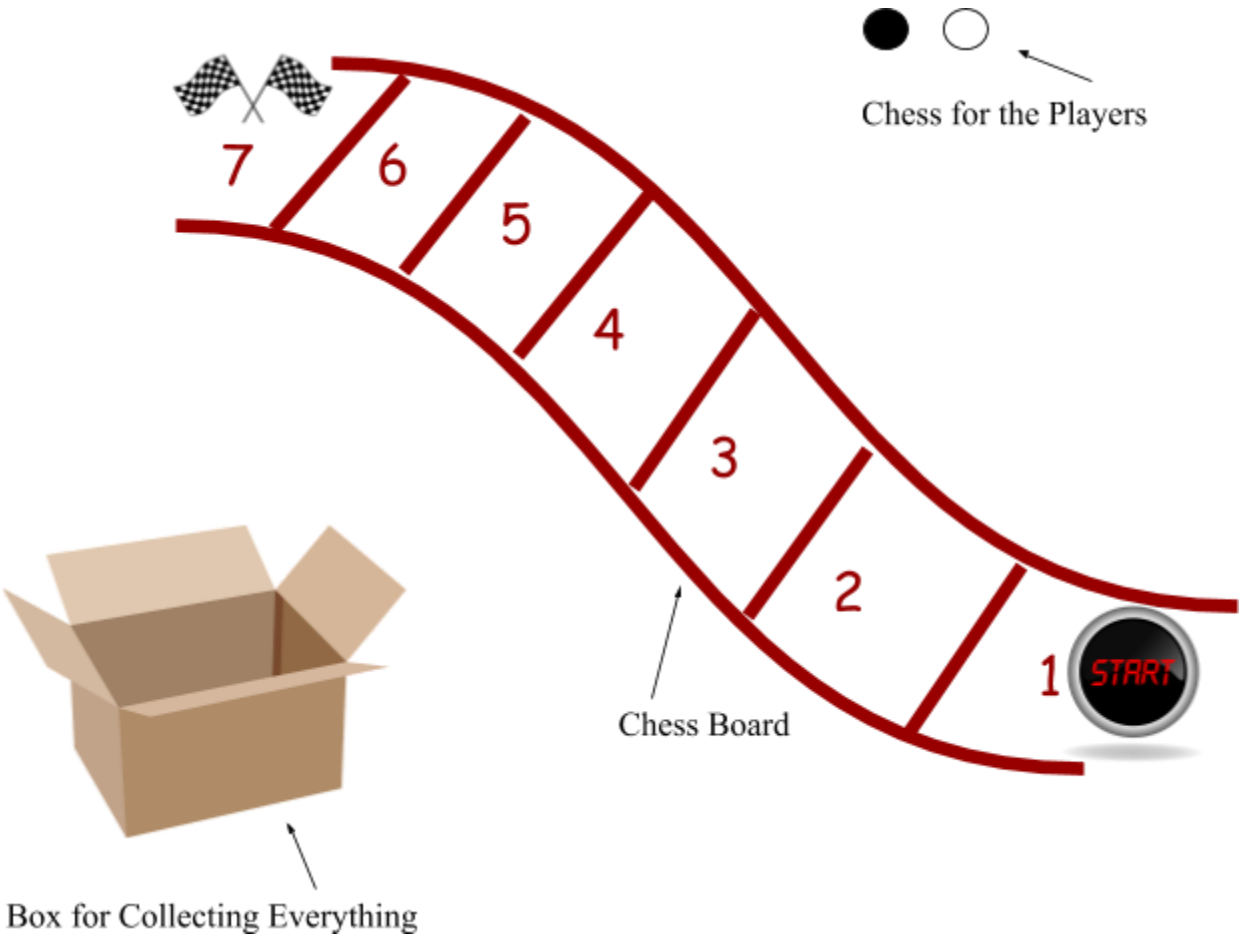
Detailed Descriptions of the Word Games

Part A – The First Word Game: *The Guessing Race*

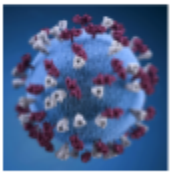
Basic Information of *The Guessing Race*	
Genre of Game:	English Learning for Non-Native English Speakers and Entertainment
Target Players:	Teenagers aged between 10 to 15
Number of Players:	2
Setting:	1x Container of All Game Materials 2x Chess 10x Yellow Card (Related Words) 10x White Card (Answers) 10x Red Card (Explicit Hints, i.e. Lexeme Level Similar Pronunciation) 1x Chess Board
Purpose:	*The Guessing Race* is designed to strengthen the English proficiency of the players. Some related words will be provided to the players and they are given one chance to guess what the answer is in every turn. The player who can reach the end faster will be the winner of the game. The purpose of designing this game as a competition between two teens is to encourage them to try to link the related words provided to them together and come up with a proposed answer to the question, so that their skills of word association related to syntactic categories can be drastically improved. Moreover, the competition makes the game more interesting and attractive, since the competition can be a motivation for the player to participate in this game. It is suggested that this game can strengthen the participants' word association to the selected words.

Procedures of Playing *The Guessing Race*	
Step 1	Play "Rock Paper Scissors" to decide the turn of the participants. The winner will play in the first turn. Hence, the winner will be Player A and the other will be Player 2.
Step 2	Player 1 picks a yellow card and will be given a minute to read the few related words on the card. If Player 1 guesses correctly, then he/she can move on to the next box on the chess board. If he guesses wrongly, then he/she will remain at the original position.
Step 3	If Player 1 guesses correctly, then Player 2 picks another yellow card and guesses the word related to his/her card. If Player 1 guesses wrongly, then Player 2 will take Player 1's card and guess. No matter in which scenario, as long as Player 2 guesses correctly then he/she moves on to the next box, or else he/she remains at the original position. When a player fails to guess the word on the card, then he/she passes the card to the next player.
Step 3	When both of the players guess the word wrongly, then they can grab the red card for some tips. The one who can guess correctly will move on to the next box.
Step 4	The player who gets to the last box faster will be the winner of the game.

Tools for the Game:



SET A	SET B	SET C	SET D	SET E
WHITE	UMBRELLA 	ZOOM 	HOLY 	NOTREDAME 

SET F	SET G	SET H	SET I	SET J
BUY 	EMPTY	POOH 	STAY 	WIDESPREAD 


SET A
SET B
SET C
SET D
SET E
COLOR
CAUCASIAN
SNOW
PLAIN
RAIN
SUN
MOVEMENT
RIHANNA
CAMERA
IN
SMALL
BIG
JESUS
SPIRIT
SACRED
BLESSING
CATHEDRAL
CATHOLIC
PARIS
HISTORICAL
SET F
SET G
SET H
SET I
SET J
SELL
MONEY
SHOPPING
GROCERY
STREET
NOTHING
BLANK
ZERO
YELLOW
HONEY
BEAR
CHRISTOPHE
R
HOME
BLACKPINK
HEALTHY
GO
PANDEMIC
DISEASE
CROWD
CONTAGIOUS

SET A	SET B	SET C	SET D	SET E
COLOR PURE PRONUNCIA-TION SIMILAR TO: "WHIPE"	TOOL RAIN PRONUNCIA-TION BEGINS WITH: "UM..."	LENS ADJUST PRONUNCIA-TION SIMILAR TO: "GLOOM"	RELIGIOUS SACRED PRONUNCIA-TION BEGINS WITH: "HOL..."	CATHEDRAL PARIS ENDING PRONUNCIA-TION SIMILAR TO: "DAMN"

SET F	SET G	SET H	SET I	SET J
SHOPPING PAY PRONUNCIA-TION SAME AS: "BYE"	NOTHING BLANK PRONUNCIA-TION BEGINS WITH: "EM..."	YELLOW BEAR PRONUNCIA-TION SAME AS: "POO"	HOME STILL PRONUNCIA-TION SIMILAR TO: "STALE"	PANDEMIC DISEASE PRONUNCIA-TION BEGINS WITH: "WIDE..."

Remarks:

1. The first row of cards indicates the front side of the cards, and the second row of cards indicates the back side of the cards.
2. The white set of cards are answers, the yellow set of cards are hints, and the red set of cards are explicit hints.
3. There are in total 10 sets of cards, which are named from SET A to SET J respectively.

Part B – The Second Word Game: *"Who is the Traitor" Game*

Basic Information of *"Who is the Traitor" Game*	
Genre of Game:	English Learning for Non-Native English Speakers and Entertainment
Target Players:	Teenagers aged between 10 to 25
Number of Players:	5-10
Setting:	1x Container of All Game Materials 50x White Cards (Each with 2 hints, 10 cards for 1 prime, good side) 20x White Cards (Each with 2 hints, 10 cards for 1 prime, traitor side) 7x Yellow Cards (Answers)
Purpose:	*"Who is the Traitor" Game* is designed to strengthen the English proficiency of teenagers as well. The players will be divided into two teams, one on the good side and one on the bad side. They will be given hints on their prime but not the answer. The good side has to find out the traitors to win, and the traitor side has to find out the answer of the good side to win. It is suggested that by including English learning materials and related things in collective games involving many teenagers, they can enhance their English proficiency and play with their peers at the same time. Moreover, as only hints are provided to every player, they have to also guess their primes during the game so that they can easily identify their teammates and win the game together. Each player will be given 30 seconds to speak out to give hints to the others, and the others will listen and also speak out when it is their turn. The players will decide on a player to be voted out. If the good side voted all people from the traitor side out, then the good side wins; if the traitor side can guess the prime of the good side accurately, then the traitor side wins. The hints of each player will be different, although they may be on the same side, so as to increase the difficulty of the game and to make the game more interesting.

Procedures of Playing *"Who is the Traitor" Game*	
Step 1	All participants of this game will sit together forming a circle.
Step 2	The first player describes his/her word after he/she looks at his/her prime, then after him/her, the next person will do the same, until everyone has described their primes.
Step 3	After all descriptions, all players will discuss freely on who is the traitor and who is on the good side. After 3 minutes of discussion, they will vote to kill one person in the game. If a good person dies, then nothing happens and the game continues. If the traitor dies, then nothing happens as well unless all traitors are dead.
Step 3	After the voting session, everybody will describe their primes again. The procedures will continue once again until Round 4, which is the last round. If all traitors are killed with four rounds, then the good side wins; if none of the traitors are killed or not all traitors are killed, then the traitor side wins. All members of the winning side will be awarded 10 marks.
Step 4	After Round 4 after the announcement of the winning side, all participants are required to guess their primes. If they can guess accurately, then 10 marks will be awarded. If they fail to guess correctly, then 5 marks will be deducted.

Tools for the Game:

Container to Collect Everything

SET A	SET B	SET C	SET D	SET E
HOLY	UMBRELLA	WHITE	EMPTY	NOTREDAME
(GOOD)	(GOOD)	(GOOD)	(GOOD)	(TRAITOR)

SET F	SET G
CORRUPTED	GOVERNMENT
(GOOD)	(TRAITOR)

SET A HINT: JESUS PURE	SET A HINT: SHIT SACRED	SET A HINT: BIBLE CATHOLIC	SET A HINT: CHRISTIAN MARY	SET A HINT: GOD CLEAN
SET A HINT: TEMPLE SPIRIT	SET A HINT: BLESSING RELIGION	SET A HINT: FATHER CHURCH	SET A HINT: HEAVEN GODLY	SET A HINT: WONDERFUL CHRISTIANIT Y
SET B HINT: RAIN TOOL	SET B HINT: SHADE COVER	SET B HINT: PORTABLE RAIN	SET B HINT: MOVEMENT RIHANNA	SET B HINT: SUN OUTING
SET B HINT: RAIN SONG	SET B HINT: RAINING SHADE	SET B HINT: RAINING REVOLUTION	SET B HINT: RIHANNA RAIN	SET B HINT: WET COVER

SET C HINT: BLACK COLOR	SET C HINT: COLOR PURE	SET C HINT: FUNERAL PURE	SET C HINT: CAUCASIAN COLONIZATI ON	SET C HINT: SNOW COLOR
SET C HINT: COLOR PURITY	SET C HINT: PLAIN NOTHING	SET C HINT: PAPER SNOW	SET C HINT: COLOR LIGHT	SET C HINT: CLEAN BLACK
SET D HINT: FULL NOTHING	SET D HINT: STREET QUIET	SET D HINT: ROOM NOTHING	SET D HINT: GLASS CUP	SET D HINT: HOUSE NOTHING
SET D HINT: LONELY SAD	SET D HINT: FEELING FULL	SET D HINT: BOX BLANK	SET D HINT: SPACE BLANK	SET D HINT: VOID BIN

SET E HINT: PARIS CATHOLIC	SET E HINT: HOLY CATHEDRAL	SET E HINT: HISTORY MUSEUM	SET E HINT: RELIGION HUNCHBACK	SET E HINT: PARIS DAMN
SET E HINT: JESUS PURE	SET E HINT: SONG BEAUTIFUL	SET E HINT: GOTHIC CATHEDRAL	SET E HINT: FIRE PARIS	SET E HINT: FIRE CHURCH
SET F HINT: GOVERNMEN T MONEY	SET F HINT: MONEY BRIBE	SET F HINT: DATA USB	SET F HINT: USB POLITICS	SET F HINT: ECONOMY MONEY
SET F HINT: SYSTEM POWER	SET F HINT: BAD BRIBE	SET F HINT: MONEY SOCIETY	SET F HINT: POWER DATA	SET F HINT: POLITICS BAD

SET G HINT: CORRUPTED POWER	SET G HINT: AUTHORITY POLITICS	SET G HINT: CORRUPTED RUBBISH	SET G HINT: LEADER BILLS	SET G HINT: USELESS POLITICS
SET G HINT: POWER CORRUPT	SET G HINT: BRIBE AUTHORITY	SET G HINT: COUNTRY POLICIES	SET G HINT: CORRUPTED BAD	SET G HINT: RUBBISH POLITICS

~End of Semester-End Written Project~