LT2201 Introduction to Linguistics

Word Association in Cantonese

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Introduction

We can relate and generate utterances without much effort in our daily lives. Yet, we are not always conscious about how words are stored in our minds. In this project, we would like to find out how native Cantonese speakers store the Cantonese vocabularies in their minds. Therefore, this research is conducted in order to study one's mental lexicon which refers to the nature of the human word-store[1]. It is believed that words are associated with each other in the light of sense relation. Sense relation generally includes synonymy, antonymy, collocation, attributive, functional relation, etc. It is hypothesized that different word types (in this study, verbs, nouns and adjectives) can have the same sense relation generated while collocation should account for the most proportion as there is no clear definition for collocation.

Methodology and Data Collection

30 native Cantonese university students were interviewed. They were given nine prime words, including verbs, adjectives and nouns, and provided with three different words for each type. For verbs, they are 拍 (to slap/ tap), 飲 (to drink) and 睇 (to watch/see/read). For adjectives, they are 靚 (beautiful/pretty), 高 (tall/ high) and 臭 (smelly/ stinky). For nouns, 蘋果 (apple), 男仔 (boy) and 飛機 (airplane). During the interview, a set of prime words were read by the interviewers to the interviewees. Interviewees were asked to say the first Cantonese word they could relate to once they heard the words spoken by the interviewers.

Results and Discussion of Questionnaire

The data collected would be analyzed as below in hope that the analysis would shed light on how mental lexicon is functioned in our brain. The tables show the frequency and the percentage of different sense relation in Verb, Noun and Adjective in Cantonese. The overall proportion of different sense relation among the 3 part-of-speech is also be presented by the table.

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[1] Aitchison, Jean. *Words in the mind: an introduction to the mental lexicon*. Chichester, West Sussex: Wiley-Blackwell, 2012. Print.

Relation	Collocation	Hyponymy	Part-whole	Attributive	Antonymy	Functional	Synonym
Frequency	170	24	11	59	3	2	1
Percentage	63%	8.9%	4.1%	21.6%	1.1%	0.7%	0.4%

From the result of our questionnaire, we found that collocation is the most frequent sense relation among those sense relations which have 63% of occurrence rate. 23.6% of the sense relation is attributive. It is the second most frequent sense relation. Hyponymy, part-whole and antonymy have a low occurrence rate which are 8.9%, 4.1% and 1.1% respectively. But hyponymy is relatively higher than others. Then, functional and synonym are the least sense relation which only have 0.7% and 0.4% respectively.

Analysis

The major reason for collocation become the most frequent sense relation to store vocabulary is that collocation has no clear definition. It is not restricted by the nature of the word. If you look at antonym and synonym, they only have 5.2% and 0.4% respectively. Since those words can be defined as antonymy must have the opposite meaning and those words can be defined as synonym must have the same meaning. It would be difficult to find those words which has the reverse and same meaning since these type of words only have a small proportion among all the words. However, it is more likely to find collocation relationship between 2 words. For example, you can relate 漢堡包 (hamburger) to 麥當勞(McDonald) because 麥當勞 have a set of product of 漢堡包. But, 麥當勞 and 漢堡包 do not have any relation before 麥當勞 is getting famous in Hong Kong. People can actually relate anything without any restriction. Human is imaginative. Collocation maybe the effective way for human to memorize words.

Moreover, the sense relation of attributive has 23.6% among all the sense relation. It is because one third of the selected words are adjectives. Adjectives are generally used to describe things. So they are the attribute of the object. We found that attributive relations are mostly distributed in adjectives since 60% of the sense relation in adjectives are attributive. Therefore, the nature of adjectives is the reason why attributive relation can be the second most frequent sense relation.

Verb

Relation	Collocation	Hyponymy	Functional
Frequency	88	1	1
Percentage	97.7%	1.1%	1.1%

The most frequent type is collocation. From the data, we can see that most of the response words are phrase verb or noun. The most frequent response word of 拍 (to slap/shoot), 飲 (to drink) and 睇 (to watch/see/read) are 拍戲 (to shoot a film), 飲水 (to drink water) and 睇戲 (to watch a film) respectively which can be categorized as phrase verb. However, those response word can also be categorized as noun like 拍戲 (filming), 飲水 (drinking water) and 睇戲 (watching film) since Cantonese does not have a clear-cut for the word category[2]. Some words can be categorized to more than one categories. It means that people can store the response words with the provided verbs in 2 ways. One is to recognize 拍戲, 飲水 and 睇戲 as V+NP structure. Another way is to identify 拍戲, 飲水 and 睇戲 as NP structure. Verbs are always used with noun by nature. It is easy to have collocation with NP. For example, the verb 飲 do evoke the noun 酒 (beer) and 水 (water). 酒 and 水 is the objects that the transitive word 飲 can possibly select. For both Chinese or Cantonese, it would be some differences with English. Since the verb 拍 can be one of the morpheme of 拍戲 or the verb of 戲 (film), people would more likely connect to the words that are usually used together. No matter what syntactic structure (V+NP/NP) they are, they are always put together. Therefore, collocation would be the dominant type of sense relation among the verbs in Cantonese.

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[2] Francis, Elaine J., and Stephen Matthews. "A multi-dimensional approach to the category 'verb' in Cantonese." *Journal of Linguistics* 41.02 (2005): 269-305.

Adjective

Relation	Collocation	Hyponymy	Attributive	Antonymy	Synonym
Frequency	26	6	54	3	1
Percentage	28.9%	6.7%	60%	3.3%	1.1%

The most frequent type is attributive since the nature of adjectives is to describe objects. Therefore, it is supposed that while the interviewees were relating the prime words with the words in their storage in their minds, they unconsciously thought of the objects that contain the property of the adjectives. For example, most interviewees say the phrase "leng3zai2" (靚仔) when they heard the word "leng3" (靚).

Collocation is the second most frequent type of sense relation and it is possibly due to the inclusion of the other two adjectives in the selection of prime words. In Cantonese, some adjectives are often combined with other noun in creating new noun phrases such as the combination of "高" (high) and "質" (quality) resulting in "高質" (high quality), and "高" and "級" (class) resulting in high class, and "臭" (stinky/ smelly) and "襪" (sock) resulting in "臭襪" (smelly sock). This reflects that speakers might store words in the minds in terms of phrases.

Meanwhile, there can be different reasons in the interviewees' perception over a same phrase such as "臭雞" (bitch contextually, smelly chicken literally). In terms of collocation, some interviewees responded with "臭雞" might mean that they use or have exposure to the phrase frequently. In terms of attributive relation, interviewees responded with only "雞" does not necessarily mean that they were relating to a chicken which has the property of "smelly" but rather "bitch". In Cantonese, "臭" is sometimes used to describe things that are nasty or hard to deal with. Also, "雞" can be used to refer woman (disrespectfully). Interviewees directly relate "臭" with "臭雞" because the word is in the word storage in their minds.

<u>Noun</u>

Relation	Collocation	Hyponymy	Part-whole	Attributive	Functional
Frequency	56	17	11	5	1
Percentage	62.2%	18.9%	12.2%	5.6%	1.1%

Collocation is also the most frequent sense relation in noun with 62.2% of occurrence rate. It maybe due to the fact that collocation The most frequent response word for 男仔 (boy) is 男仔頭 (tomboy) and the most frequent response word for 飛機 (airplane) is 飛機場 (flat chest). Because 男仔 and 飛機 are 2 of the morphemes to construct the another noun 男仔頭 and 飛機場. When people saw these 2 noun, they always thought of the similar nouns which were just simply add one morpheme to form a new word. Therefore, it is common for collocation to become the most frequent relation in noun.

Moreover, hyponymy has 18.9% of occurrence rate which is the second most frequent relation in noun. Nouns can be categorized by the hierarchical structure. For example, 臭 (smelly) have evoked the word 味 (smell) from the response by the participants. In fact, 臭 is one type of 味. Therefore, 臭 is the subordinate of 味 and 味 is the superordinate of 臭. But verbs and adjectives are difficult to find the hyponymy relation due to the restriction of the nature of word categories.

Nevertheless, we should also note that part-whole relation have 12.2% of occurrence rate in noun. Only objects would allow the occurrence of the part-whole relation. For instance, the most frequent occurrence word relation for 蘋果 (apple) is 蘋果批 (apple pie). 蘋果 is part of the essential part of 蘋果批. However, verbs and adjectives are also impossible to have the part-whole sense relation because of the restriction of the word categories.

Conclusion

Interviews have been carried out with 30 native Cantonese speakers and their immediate response were required. We discovered that there are certain differences for verbs, adjectives and nouns to be an activating word, they will help native Cantonese speakers to think in contrasting relations. The hypothesis for collocation should account for the largest proportion is valid, as the outcome with respect to each type of words showed that the particular sense collocation is always the majority. Also, functional relation shared the smallest proportion in the data.

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Appendices

拍 (to slap/ tap)		
Response word	Frequency	Sense Relation
拍戲 (to film)	6	collocation
拍攝 (to shoot)	4	collocation
拍拖 (to go on a dating)	4	collocation
拍波 (to hit a ball)	2	collocation
拍片 (to shoot a video)	2	collocation
拍手 (to clap hands)	2	collocation
拍打 (to hit)	1	collocation
手 (hand)	1	functional
膊頭 (shoulder)	1	collocation
拍照 (to take pictures)	1	collocation
打 (to hit)	1	hyponymy
球拍 (racket)	1	collocation
拍劇 (to shoot)	1	collocation
戲 (film)	1	collocation
拍枱 (to tap on the table)	1	collocation
拍手掌 (to clap hands (the palms))	1	collocation

飲 (to dirnk)		
Response word	Frequency	Sense Relation
飲水 (to drink water)	7	collocation
飲嘢 (to drink something)	4	collocation
飲食 (diet/ food and drink)	4	collocation
酒 (beer)	4	collocation
飲酒 (to drink beer)	3	collocation
飲茶 (yumcha)	3	collocation
水 (water)	3	collocation
可樂 (coke)	1	collocation

睇 (to watch/ see/ read)		
Response word	Frequency	Sense Relation
睇戲 (watch a movie)	10	collocation
電視 (television)	4	collocation
睇波 (watch a football match)	2	collocation
睇靚女 (look at the pretties)	2	collocation
睇電視 (watch tv)	1	collocation
睇電影 (watch a movie)	1	collocation

睇法 (opioion)	1	collocation
睇風景 (look at the view/ landscape)	1	collocation
睇景 (look at the view/ landscape)	1	collocation
睇靚仔 (look at the handsomes)	1	collocation
睇人 (look at a person)	1	collocation
睇水 (watch out for someone)	1	collocation
睇野 (look at something)	1	collocation
書 (book)	1	collocation
戲 (movie)	1	collocation
風景 (view)	1	collocation

collocation: 30/30 = 100%

靚 (beautiful/ pretty)		
Response word	Frequency	Sense Relation
靚仔 (handsome guy)	14	attributive
靚女 (pretty girl)	13	attributive
女 (girl)	1	attributive/ (collocation)
靚車 (high-end car)	1	attributive
靚景 (beautiful view)	1	attributive

attributive: 30/30

高 (tall)		
Response word	Frequency	Sense Relation
高大 (tall)	10	collocation
高達 (Gundom)	2	collocation
大 (big)	2	hyponymy
高妹 (tall girl)	2	attributive
高佬 (tall man)	2	attributive
矮 (short)	2	antonymy
高大衰 (a tall large bad guy)	1	attributive
高挑 (tall)	1	synonymy
高級 (high class)	1	collocation
高仔 (tall boy)	1	attributive
高手 (master)	1	collocation
高山低谷 (name of a cantonese song)	1	collocation
高血壓 (high blood pressure)	1	collocation
高質 (high quality)	1	collocation
地位 (status)	1	collocation
高大威猛 (tall and strong)	1	collocation

臭 (smelly/ stinky)

Response word	Frequency	Sense Relation
臭味 (bad smell)	6	attributive
味 (smell)	4	hyponymy
臭閪 (bitch)	4	attributive
臭狐 (body odor)	3	atttibutive
雞 (chicken)	2	collocation
臭雞 (smelly chicken)	2	attributive
臭死 (smelly to death)	1	collocation
臭豆腐 (stinky tofu)	1	attributive
臭丸 (mothball)	1	attributive
臭名遠播 (notorious)	1	collocation
臭男人 (wretch)	1	collocation
臭氧 (ozone)	1	collocation
臭襪 (stinky socks)	1	attributive
香 (scented)	1	antonymy
臭串 (arrogant)	1	collocation

蘋果 (apple)		
Response word	Frequency	Sense Relation
蘋果批 (apple pie)	8	part-whole

橙 (orange)	4	hyponymy
蘋果汁 (apple juice)	3	part-whole
電話 (telephone/ mobile)	3	collocation
蘋果日報 (Apple Daily)	2	collocation
批皮 (peeling)	1	collocation
蘋果棋 (apple chess)	1	collocation
蘋果電腦 (MacBook)	1	collocation
好食 (tasty)	1	attributive
蘋果手機 (iPhone)	1	collocation
蘋果肌 (cheek)	1	collocation
蘋果公司 (Apple (the company))	1	collocation
香蕉 (banana)	1	hyponymy
手機 (mobile)	1	collocation
喬布斯 (Steve Jobs)	1	collocation

男仔 (boy)		
Response word	Frequency	Sense Relation
男仔頭 (tomboy)	13	collocation
女仔 (girl)	11	hyponymy
威猛 (bold and powerful)	1	attributive

麻煩 (troublesome)	1	attributive
弟弟 (brother)	1	collocation
百厭 (naughty)	1	attributive
頭髮 (hair)	1	attributive
渣男 (rubbish man)	1	hyponymy

飛機 (airplane)		
Response word	Frequency	Sense Relation
飛機場 (flat chest)	13	collocation
放飛機 (to stand somebody up)	3	collocation
機場 (airport)	2	collocation
打飛機 (to masturbate)	2	collocation
飛機師 (pilot)	1	collocation
師 (professionals)	1	collocation
飛機王 (king of standing people up)	1	collocation
飛機杯 (masturbation sleeve)	1	collocation
飛機餐 (meal)	1	collocation
飛機佬 (a name)	1	collocation
旅行 (travelling)	1	collocation
頭 (head)	1	collocation

外國 (foreign)	1	collocation
起飛 (take-off)	1	functional