

The Impact of Verb-Noun Collocations in the Research Writing of Chinese EFL Learners

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Abstract: Verb-Noun collocation in the writings of Chinese EFL Learners' research articles focus on the correct use in general graduate thesis. The research was conducted to assess the impacts of the verb-noun collocation in research writing of Chinese EFL students in University Science of Malaysia (USM). Among numerous methods to collocations research, corpus-based approach have been selected to use a quantitative research design, which is based on TYPE and TOKEN, to identify the various verb-nouns collocation and the frequency of occurrence. This paper collected 11080000 verb-noun collocations from four schools and 18 graduate papers at the University of Nilai, and analyzed the results based on inferential statistics. The findings showed that verb-noun collocations are used to report findings, sum up data, discuss result, analyse, and carry out high frequency research in art and engineering. The result of the present paper reveal that a verb-noun collocation among Chinese EFL students in USM has a significant effect. EFL students, however, continuously confirmed that verb-noun collocation is a challenging aspect in vocabulary development. Brief recommendations have been provided.

Keywords: Collocation, Corpus-bases, Verb-Noun, EFL

1. Introduction

Institutions have increasingly value the significance of teaching, communication, and thesis writing in the area of linguistic and corpus-studies that is needed for foreign language teaching (EFL). Given that, research writings are commonly used to pass on current or preferred discovery and novel information^[1]. A wider understanding of research writing should therefore be able to communicate effectively by using collocations, particularly verb-noun collocations.

However, students' writing and academic writing is not simple since concerns related to areas like lexical choices, collocations, and language rules still remain difficult to acquire for EFL learners. In that instance, EFL students achieves language acquisition through advanced lexical responses.

Collocations are an important aspect of EFL learning in language. There are various vocabulary approaches and phrase structures which make language learning extremely challenging for EFL learners. Chao^[2] evaluated whether or not the vocabulary development strategy of corporate assistance effect graduates' overall research writings. The findings show that vocabulary development approach is beneficial for the learning of phrases and collocations.

On the other hand, fewer study has been done on the impact of corpus-based activities on teaching collocations and phrasal verbs as a key aspect of vocabulary development in EFL-class. Collocation is not understood by the individual word, it often consists of two or more words as a single grammatical structures. Collocations are therefore a significant component of vocabulary knowledge of foreign language learning.

In addition, there are insufficient study of the difficulty of using collocation by Chinese EFL learners in USM. However Frequency-Based Model of analyzing lexical collocations, have been accepted and adapted by many researchers, on that basis the current research will also focus on one type of collocations (Verb-Noun) and the impact of collocation on research writing of EFL Chinese learners in USM.

2. Literature Review

In general, vocabulary development have become necessary for both words and word combination^[3]. The vocabulary development approach emphasizes that the core of language teaching is in the vocabulary size and lexical structures.

The objective of vocabulary teaching is to increase the student's ability to use and also to develop language structures. However, Lewis^[3] claims that these vocabulary structures cause significant educational challenges for learners of second language (L2). Various studies

have shown substantial progress in the formation of L2 vocabulary with problems which are critical to the collocation knowledge of EFL students.^[4]

3. Collocation Classification and Arrangement

Collocations are classified in two^[5]. This covers lexical collocations and grammatical collocation. The lexical collocation include nominals, adjectives, verbs and adverbs. Grammatical collocations include word groups, preposition, or grammatical composition (such a verb, a noun or an adjectives). There are various ways used to identify collocation, a 'phraseological and frequency-based method' that examines the grammar and empirical use of the collocation^[6]. The combination of the vocabulary structures is based on the arrangement and the parameters of the arrangement to be examined. In that account, the researcher have selected two criteria for the classification of collocation: transparency and composability. According to Peng (2016), transparency refers to the literal interpretation of collocation and composability relates to the 'where and how' of a restricted collocation that can suitably substitute in its constituent components either technically or figuratively.

Based on these classification methods, the collocation are identified as "free combinations" or group of words, units that might randomly be substituted without changing their meanings. Among the types of collocations, lexical and grammatical collocation are also used by researchers. Lexical collocation (noun, verb and adjectives) include words like "do a research" or "pass the ball", while grammatical collocation refer to groupings with grammatical components (prepositions or determinants), like "in annoyance" and "a concern".

The lexical classification of verb-noun collocations, have advanced approaches to differentiate the arrangements from other groupings. Gao et al.^[7] set a standard for the identification of verb-noun collocations, which is whether there are also word combinations related to verb-noun entries in the dictionary. "To acquire knowledge," for instance, in the New Century Dictionary of Collocation (NDCC), the words "acquire" and "knowledge" can be found separately such as in the text, "Acquire a working knowledge of English" included the description of "obtain" and "We acquire a knowledge step by step contain the notion "understand ". Collocation occurs in the dictionary usage of verbs and nouns, so its elements are considered to be in combination coexist. Hence, it is referred to as a "restricted collocation", which means the close combination between the components of the collocation. If the noun and verb in the dictionary are used separately, it has been described as an unbounded combination, such as 'return to your flat' (lexical collocation).

4. Approaches to Collocations

The study of collocation in research papers includes four methodologies. First, the intuition approaches that is supported by the instinct of the native speakers to decide the correct collocation. Secondly the frequency-based approach, two or more words co-occurrence. The requirements of word pairs are found in many cases together more than the occurrence of single words^[8]. The third approach explains collocations as integration of a given grammatical structure regardless of whether they are formally or otherwise considered. And fourthly, there are methods that consider whether the collocation as a phraseology reviews supported by specific types of collocation in word combination which can also be considered marked from other sets of word combinations, as frequently referred to as free combinations and idioms. These collocations are sometimes described as restricted collocations, as those phraseological approaches used to define collocations as classification of word combination according to collocation continuums, typically referred to as free collocations (combination). It is nevertheless an issue of categorization but different word integration and to identify those collocation with restricted meaning.

5. Methodology

This study was conducted in University Sains Malaysia (USM) using the previous research thesis of students between the periods of 2016- 2020 on the academic writings of EFL of Chinese students studying in Malaysia. The participants were mainly from the four (4) faculties: Science, Art, Engineering and Medical, Dental and Health. The application of computer software was used in different stages of the research: to test the Cronbach's Alpha coefficients tested at 0.7 with the aid of SPSS 23.0, Integrated Corpus Software (ICS) programme which aid the removal of verb-noun collocation description and software for inferential statistical analysis to obtained results. The study was based on the quantitative research design, to assess the Chinese EFL-Verb-Noun collocation, which recognized the ICS approach use with 79 verb-noun terms used in research writing and categorised them in accordance with the use as shown in Table 1 below.

Table 1 Verb-Noun Collocation and Use

Verb-Noun	Verbs
To discuss finding	Attest, confirm, content, demonstrate, document, indicate, reveal
To summarize	Assess, conclude, features, highlight,
To show analysis	Analyse, appraise, define, diagnose, identify, investigate, observe
To indicate control	Constrain, control, govern, influence, inhibit, limit, maintain, prohibit, regulate, secure
To state	Comment, convey, elaborate, establish, identify, propose
To show decrease	Alliterate, cease, decline, depress, desert, deteriorate, minimize, subside reduce
Indicate figure	Depict, display, illustrate, gives, lists, present, summarize
Indicate table	Classify, enumerate, gives, lists, presents, summarize
To performed Task	Adequate, comprehensive, exhaustive, extensive, thorough
To indicate positive	Confirm, complement, corroborate, substantiate, support, uphold, validate, verify
To indicate negative	Challenge, contradict, disagree, dispute reject, question

6. Result and Discussion

There were 23 most used verb-noun collocations in research writing which was found as a difficulty term among EFL learners and this was in agreement with Laufer and Waldman^[9] that stated verb-noun collocations more frequently than when speaking that writing strongly depends on. The findings in the study shows that most common verb-nouns with high frequency based on the faculties of the EFL graduated post-graduate Thesis.

Table 2 Verb-Noun Collocations finding and frequency

Verb-Noun Collocation Finding	Science %		Art %		Engineering%		Medicine%	
Attest	12	100	0	0	0	0	0	0
Confirm	09	16.4	3	5.5	0	0	43	78.2
Demonstrate	37	67.3	06	10.9	12	21.8	0	0
Indicate	3	5.1	23	38.9	18	30.5	15	25.4
Reveal	17	21.5	47	59.5	9	11.4	6	7.6
TYPE	5		4		3		3	
TOKEN	78		79		39		64	

The table 2 reveals the verb collocation of the word finding in research writing of EFL and found out the verb-noun 'to attest' appeared more frequently in the faculty of science of 100% compared to the other faculties. The verb 'have confirmed' was frequency with medicine has 78.2%, with Science16.4% and 5.5% with Art in the frequency. The verb-noun 'have demonstrated' was frequent in Science with 67.3%, Engineering with 21.8% and Art with 10.9%. Moreover, 'have indicated' include the following frequent in the faculty of Art with 38.9, followed by Engineering with 30.5 and Medicine with 25.4% while Science with 5.1%. The verb-noun 'do reveal' has high frequency with Art at 59.5%, Science 21.5% and Engineering 11.4% while Medicine 7.6%. In Chinese EFL learners the verb-noun 'finding' occurs more in their research writing which shows the learning EFL needs to be more exposed to use of verb-noun collocation in expressing their learning capacity in research writing.

Table 3 Verb-Noun Collocations Summarize and frequency

Verb-Noun Collocation Summarize	Science %		Art %		Engineering %		Medicine%	
Evaluate	0	0	59	100	0	0	0	0
Conclude	29	31.2	20	21.5	13	13.9	31	33.3
Features	37	44.5	0	0	39	46.9	7	8.6
Highlight	15	25	0	0	27	45.0	18	30
TYPE	3		2		3		3	
TOKEN	81		79		79		56	

These graduated students in the four faculties as seen on table 3 of verb-noun collocation of the verb 'to summarize' found 'have evaluate' to be 100% used by EFL learners in Art Faculty while other faculties rarely used it as verb-noun. The verb 'to conclude' highly used in the faculty of Medicine with 33.3%, followed by Science with 31.2% and Art had 21.5% while engineering with 13.9%. The verb 'features'

was more frequent in the faculty of Engineering with 46.9%, Science with 44.5% and Medicine with 8.6%. And the verb-noun 'to highlight' indicated faculty of Engineering with most frequent use of the word highlight 45%, followed by Medicine with 30 and Science with 25%. The verb-noun collocation most frequently used from the selected words, to have dominance in the faculty of Engineering is the word 'to summarise', seen as the table 4:

Table 4 Verb-noun Collocation Control and Frequency

Verb-Noun Collocation Control	Science %		Art %		Engineering %		Medicine %	
Constrains	63	50.8	0	0	29	23.4	32	25.8
Control	18	26.1	0	0	12	17.4	39	56.5
Govern	0	0	38	100	0	0	0	0
Regulate	0	0	0	0	31	91.2	3	8.8
Maintain	0	0	12	60	7	35	1	5
TYPE	2		3		3		3	
Token	81		50		79		75	

The verb-noun collocation of control connecting five frequent nouns of constraints, control, govern, regulate and maintain. The noun collocation occurrence was more than 30 times in corpus and their normalized frequency was of TYPE which is the number of different collocate and also TOKEN as the number of occurrences. Thus, TYPE for Control appeared twice in Science, thrice in Art, Engineering and Medicine respectively as well as TOKEN. EFL graduation theses revealed 50.8% 'constraint' was found in the faculty of Science, 25.8% in Medicine and 23.4% in Engineering. The verb 'regulate' in control indicated 91.2% in Engineering and 8.8% with Medicine and 'govern' was 100% in Art alone while 'maintain' was 60% in Art, 35% in Engineering and 5% in Medicine. There is an impact of the verb-noun 'control' as it relates with verbs in all the faculties.

Table 5 Verb-Noun Collocation Analyse and Frequency

Verb-noun collocation Analyse	Science %		Art %		Engineering%		Medicine %	
Analyse	14	53.9	0	0	07	26.9	5	19.2
Appraise	0	0	26	66.7	13	33.3	0	0
Diagnose	39	39.0	0	0	0	0	61	61.0
Identify	17	73.8	3	13.1	0	0	3	13.1
TYPE	3		2		2		3	
TOKEN	53		29		20		69	

Table 5 indicate that the frequency of verb-noun collocation examine were analyse, appraise, diagnose, and identify found in graduate Thesis of 2018-2020. To 'to analyse' was 53.9% in Science, Engineering with 26.9% and 19.2% in Medicine. The verb 'to appraise' was found to appeared 26 time of 66.7% and 13 of 33.3% in Engineering and 'to diagnose' verb-noun was 61% in Medicine and 39% in Science while in the verb-noun 'to identify' was 73.8% in Science as well medicine was 13.1%. The TYPE 3 was for Science, 2 was for Art and Engineering and 3 was for Medicine as well TOKEN 53, 29, 20 and 69 respectively for each faculty.

Table 6: Verb-Noun Collocation for Performed Task and Frequency

Verb-Noun collocation Performed Task	Science%		Art %		Engineering%		Medicine %	
Adequate	16	36.4	0	0	11	25.0	17	38.6
Comprehensive	0	0	31	100	0	0	0	0
Thorough	0	0	16	100	0	0	0	0
Extensive	0	0	15	35.7	27	64.3	0	0
Exhaustive	0	0	5	100	0	0	0	0
TYPE	1		3		2		1	
TOKEN	16		67		38		17	

The table 6 reveals the verb-noun collocation of the word 'Performed Task' in research writing of EFL of Chinese studying Malaysia for words adequately, comprehensively, thoroughly, extensively and exhaustively. The verb 'adequate was often used in Theses of EFL graduate of Medicine with 38.6%, 36.4% of Science and 25% of Engineering. For the word 'to comprehend' 100% was for Art and 'thoroughly' was 100% for Art while 'extensive' was 64.3% engineering and 35.7% Art. The TYPE was found out the verb-noun 'to attest' appeared more frequent in faculty of science of 100% compare to the other faculties. TYPE was 1, 3, 2 and 1 while the TOKEN was 16 for Science, 67 for Art, 38 for Engineering and 1 for Medicine. The study focus on the EFL thesis writing and reveals more often that the verb-noun of the per-

formed tasks in the faculty of Art to be high. The study conducted a multiple regression analysis was used to obtain the impact of verb-noun collocation in Chinese research writing. The model has F statistics of 192.971 and a p value = 000 < 0.01 and 0.05, meaning the model is statistically significant at 99% or 95% significance level. The coefficient of determination R² of 0.816 as seen in table implies that the impact of verb-noun collocation was 81.6% determined by the combination of the repressors or independent variables. The remaining 18.4% were variable unexplainable as it affect the other variables of thesis writing control not included in the mode, the analysis of variance and the mode summary are seen as the table 7 and table 8:

Table 7 ANOVAa

Mode	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.903a	.816	.809	.574	.137
a. Predictors: (Constant), Analysis, Control, Summarize, Table, Finding					
b. Dependent Variable: verb-noun collocations					

Table 8 Mode Summary

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	192.971	5	38.594	117.114	.000b
	Residual	43.500	132	.330		
	Total	236.471	137			
a. Dependent Variable: verb-noun collocation						
b. Predictors: (Constant), Analysis, Control, Summarize, performed tasks, Finding						

Table 9 Coefficients of Verb-Noun Collocation

Model	B	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		Std. Error	Beta			
1	(Constant)	-1.552	.235		-6.606	.000
	Finding	.487	.169	.301	2.887	.005
	Summarize	.885	.208	.334	4.264	.000
	Control	.143	.277	.033	.515	.607
	Performed Task	.427	.162	.203	2.642	.009
	Analysis	.207	.179	.123	1.157	.249

The coefficients of the regressors in the table corroborate the nature of the relationship between preparation of budget and budgetary control and each of the independent variables. The coefficient of the constant is negative ($\beta = -1.552$, $p = 0.000$). The following were dependent variable finding ($\beta = 0.487$, $p = 0.000$), the coefficient of the verb-noun ($\beta = 0.885$, $p = 0.005$), which indicates that it was positively correlated ($\beta = 0.143$, $p < 0.607$), the coefficient of performed task was positively correlated ($\beta = 0.427$, $p = 0.009$) and the coefficient of the analysis is positively correlated ($\beta = 0.207$, $p = 0.2496$). Therefore, the study shows significant impact of verb-noun collocation on EFL Chinese research writing. The results obtained in this study agreed with Jafarpour, Hashemian and Alipour^[10]. The impact of verb-noun collocation was in the different faculties selected that discovered the frequency and numbers of occurrences. Most significant were verb-noun of finding, summarize and performed task whereas control and analysis were insignificant. In Chinese EFL learners the verb-noun found to occur more in their research writing which shows the learning EFL need to be more exposed to use of verb-noun collocation in expressing their learning capacity in research writing. There was dominance in the use of verb-noun collocation, especially in the faculty of engineering, science and medicine while Art was dominant with performing tasks. The emphasis here is likely that despite the learning and the period of years spent in the study, verb-noun collocation is a challenge in research writing among EFL learners because of the need to graduate, focus more often was on the graduation that English as Foreign Learner (EFL). More significantly, in research writing, students use verb-noun collocation more often than speaking, particularly to find, summarize and perform tasks which can be found repeatedly in the exact verb-noun findings and the discussion such as 'to suggest, reveal, illustrate, have features'. However, verb-noun collocations are part of research writing; the learner must have an adequate knowledge of the application in thesis writing to avoid collocation.

7. Conclusion

In general terms, collocation is a significant aspect of vocabulary understanding, verb-noun combination, and thesis writing by EFL

Chinese studying in Malaysia Sains University (USM). The findings revealed significant impacts in the different faculties of the campus, but still EFL students encountered challenges in application of verb-noun collocation. There is the need to emphasize that adequate teaching of collocation verb-noun be improved where necessary, especially, with research writing using corpus-base and encourages the proper use of collocation in research writing among EFL Chinese students through the acquisition of receptive knowledge and productive writing skills which is vital towards achieving academic excellence.

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