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**THE INFLUENCE OF L1 KNOWLEDGE, MEANING
KNOWLEDGE AND LANGUAGE EXPOSURE
ON THE PROCESSING AND PRODUCTION
OF ENGLISH COLLOCATIONS AMONG EFL LEARNERS**



**DOCTOR OF PHILOSOPHY
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Abstrak

Pengaruh silang linguistik memainkan peranan penting dalam penghasilan kolokasi bahasa Inggeris. Pelajar bahasa kedua sering membuat kesilapan berdasarkan bahasa pertama (Nesselhauf, 2003). Walau bagaimanapun, mekanisme pengaruh silang linguistik terhadap pemerolehan kolokasi bahasa kedua ini masih tidak jelas. Tujuan kajian ini adalah untuk mengkaji kesan positif dan negatif bahasa ibunda mengenai pemerolehan kolokasi pelajar bahasa Inggeris dengan mengkaji kesan konsistensi pada pemprosesan dan pengeluaran kolokasi. Selain itu, kajian ini juga akan meneliti pengaktifan bahasa ibunda dalam pemprosesan kolokasi, dan kesilapan dalam pengeluaran kolokasi. Malah kajian ini turut mengkaji kesan pengetahuan makna perkataan nod bahasa Inggeris dan pendedahan harian terhadap pemerolehan kolokasi bahasa Inggeris. Kajian ini melibatkan sejumlah 60 orang pelajar EFL dari negara China. Pelajar-pelajar ini dibahagikan kepada dua kumpulan berdasarkan penguasaan bahasa Inggeris mereka. Kaedah penyelidikan ialah menggunakan teknik Reaksi Masa (RT) dan ujian pengeluaran untuk mengenal pasti kesan pengaruh L1 pada pemprosesan dan pengeluaran kolokasi bahasa Inggeris. Data pemprosesan dianalisis secara kuantitatif, manakala bagi data ujian produktif pula dianalisis terlebih dahulu dengan teknik statistik dan seterusnya dianalisis pula dengan teknik analisis kesalahan. Hasil kajian mendapati bahawa kesan kongruensi L1-L2 yang ketara dalam pemprosesan ($p < .001$) dan pengeluaran ($p < .001$), serta signifikan yang ketara bagi L1, dengan $F(2,58) = 49.004$, $P < .01$, terhadap pemprosesan kolokasi L2 yang tidak selaras. Ini menunjukkan bahawa kesan pendedahan bahasa dan pengetahuan makna adalah tidak penting. Hampir separuh daripada sasaran kolokasi tidak kongruen diuji dan lebih daripada 50% perkataan devian yang disebabkan oleh L1. Keputusan menunjukkan bahawa bahasa ibunda memainkan peranan positif dan negatif dalam pemerolehan kolokasi bahasa Inggeris, dan kolokasi yang dipindahkan daripada L1 ini akan diserap dalam leksikon L2 dan sukar untuk dihilangkan. Hasil penyelidikan ini mendedahkan tentang pengaruh silang linguistik pada pemprosesan dan pengeluaran kolokasi bahasa Inggeris, dan memberikan beberapa inspirasi untuk pembinaan teoritis. Di samping itu, hasil penyelidikan ini juga mengemukakan cadangan untuk amalan pengajaran dan penyelidikan lanjut mengenai pemerolehan kolokasi bahasa kedua.

Katakunci: Pengaruh antara bahasa, Pemprosesan, Penghasilan, Kolokasi Bahasa Inggeris, Pelajar EFL China.

Abstract

Interlingual influence plays a critical role in the acquisition of English collocations. L2 learners often produced L1-based errors (Nesselhauf, 2003). However, the working mechanism of interlingual influence on the acquisition of L2 collocations is not fully understood. The current study aimed to ascertain the positive and negative effects of L1 on the acquisition of English collocations among EFL learners by examining congruency effects on collocation processing and production, the activation of L1 in the processing as well as the errors in collocation production. The study also investigated the effects of meaning knowledge and language exposure on the acquisition of English collocations. Participants are 60 Chinese EFL learners and they were divided into two groups according to their English proficiency. Reaction Time (RT) research techniques and a productive test were utilized to examine L1 influence on English collocation processing and production respectively. The data of the processing tasks were analyzed in quantitative ways, and the data of the productive test were firstly analyzed with statistical techniques and were further analyzed with the technique of Error Analysis. The study has gained significant congruency effects on processing ($p < .001$) and production ($p < .001$), significant priming effects of L1, with $F(2,58) = 49.004$, $P < .01$, on the processing of incongruent collocations, but non-significant effects of language exposure and meaning knowledge. Almost a half of incongruent collocations were given more than 50% L1-induced deviant answers in production. The results revealed that L1 played positive and negative roles in the acquisition of English collocations, and transferred L1 would be fossilized in L2 lexicon and was hard to be discarded. The findings provide insights into interlingual influence on English collocation processing and production, as well as some implications for theory construction. Based on the findings, the study gave suggestions for pedagogical practice on L2 collocation acquisition and further research.

Keywords: Interlingual influence, Processing, Production, English collocations, Chinese EFL learners.

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CHAPTER ONE

INTRODUCTION

1.1 Background

Individual lexical items have been predominant in vocabulary development for a long period. Likewise, researches focusing on knowledge and production of individual words were prevalent (e.g., Coady & Huckin, 1997; Hulstijn & Laufer, 2001; Weizman & Snow, 2001; Webb, 2007; Schmitt & Schmitt, 2012). However, based on the traditional teaching style, EFL learners put too much emphasis on individual words, but ignore phraseological knowledge, which inhibited learners' acquisition of multi-word sequences, especially collocations which was found to account for the major part of the errors made by learners in their output of different restrictions of word combinations (Nesselhauf, 2003). What is more, their collocational proficiency tended to lag far behind their vocabulary competence (Huang, 2001).

Studies on the development of mental lexicon of second language or foreign language learners have shown that EFL learners' collocational knowledge improved slower than individual lexical semantics knowledge (Arnaud & Savignon, 1997), and the case applied to the advanced learners (Greidanus et al., 2005). Studies conducted on Chinese EFL learners have also shown the similar findings (Mo & Sun, 2004; Zhang & Chen, 2006). These findings indicated that collocational competence did not develop with general vocabulary knowledge in parallel way, which mutually

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Appendix A

Target node words and target collocations

No.	node words	congruent collocations	incongruent collocations
1	acquire	acquire qualifications	acquire knowledge
2	answer	answer questions	answer the phone
3	bitter	bitter taste	bitter blow
4	brief	brief summary	brief moment
5	catch	catch a fish	catch fire
6	close	close the door	close relationship
7	draw	draw pictures	draw conclusions
8	drop	drop bombs	drop hints
9	great	great man	great progress
10	heavy	heavy industry	heavy rain
11	kill	kill animals	kill time
12	false	false assumption	false tooth
13	full	full marks	full moon
14	flat	flat roof	flat rate
15	light	light touch	light snack
16	lose	lose control	lose weight
17	narrow	narrow street	narrow range
18	poor	poor family	poor girl
19	raise	raise standards	raise money
20	rare	rare disease	rare species
21	strong	strong wind	strong support
22	tell	tell the story	tell the difference
23	weak	weak signal	weak tea
24	wide	wide area	wide range

Appendix B

Frequency of target collocations

No.	congruent collocations	frequency	incongruent collocations	frequency
1	acquire qualifications	15	acquire knowledge	30
2	answer questions	348	answer the phone	62
3	bitter taste	47	bitter blow	28
4	brief summary	64	brief moment	101
5	catch a fish	40	catch fire	45
6	close the door	107	close relationship	239
7	draw pictures	55	draw conclusions	49
8	drop bombs	6	drop hints	5
9	great man	278	great progress	245
10	heavy industry	104	heavy rain	258
11	kill animals	11	kill time	12
12	false assumption	55	false tooth	75
13	full marks	87	full moon	189
14	flat roof	133	flat rate	165
15	light touch	53	light snack	32
16	lose control	91	lose weight	191
17	narrow street	118	narrow range	101
18	poor family	80	poor girl	135
19	raise standards	112	raise money	426
20	rare disease	26	rare species	107
21	strong wind	153	strong support	182
22	tell the story	118	tell the difference	105
23	weak signal	12	weak tea	16
24	wide area	264	wide range	277

Appendix C

String length of target collocations

No.	congruent collocations	length	incongruent collocations	length
1	acquire qualifications	21	acquire knowledge	16
2	answer questions	15	answer the phone	14
3	bitter taste	11	bitter blow	10
4	brief summary	12	brief moment	11
5	catch a fish	9	catch fire	9
6	close the door	12	close relationship	17
7	draw pictures	12	draw conclusions	13
8	drop bombs	9	drop hints	9
9	great man	8	great progress	13
10	heavy industry	13	heavy rain	9
11	kill animals	11	kill time	8
12	false assumption	15	false tooth	10
13	full marks	8	full moon	8
14	flat roof	8	flat rate	8
15	light touch	10	light snack	10
16	lose control	11	lose weight	10
17	narrow street	12	narrow range	11
18	poor family	10	poor girl	8
19	raise standards	14	raise money	10
20	rare disease	11	rare species	11
21	strong wind	11	strong support	13
22	tell the story	11	tell the difference	17
23	weak signal	10	weak tea	7
24	wide area	8	wide range	9

Appendix D

Productive items

NO.	target collocations	productive items
1	acquire qualifications	There are some professional training classes for young school-leavers to _____ qualifications needed for technical jobs.
2	acquire knowledge	Though challenged over the last decade by e-books and online database, paper books remain the most popular way to _____ knowledge.
3	answer questions	He likes English very much, so he always actively _____ questions raised by the English teacher in class.
4	answer the phone	It is her mom's call. She _____ the phone on the first ring.
5	bitter taste	Sweets can make you feel better when you have _____ taste in your mouth after taking pills.
6	bitter blow	Losing the game is a _____ blow to the football team and their fans.
7	brief summary	This article is only a _____ summary of Darwin's theory of natural selection. If you want to know more details about it, please read this book.
8	brief moment	Ten-year is just a very _____ moment in the long course of human history.
9	catch a fish	The little boy has just _____ a fish from the river but then put it back into the river.
10	catch fire	The naughty boy deliberately threw a lit match into the girl's lap, causing her dress to _____ fire.
11	close the door	"Could you please _____ the door? It is too noisy outside." John said to the examiner.
12	close relationship	The teacher cares about her students so much that she

		has built a _____ relationship with them.
13	draw pictures	She likes to _____ pictures and read books by the window.
14	draw conclusions	Based on a very limit sample in this research, it is very difficult to _____ conclusions about how the gender of teacher affects bias in transactions with pupils.
15	drop bombs	On May 25, Iranian military aircraft flew 100 kilometres (62 miles) inside Iraq to _____ bombs on two alleged bases of Iranian dissidents.
16	drop a hint	Could you _____ a hint to me when you want me to talk?
17	great man	Abraham Lincoln is a _____ man in American history.
18	great progress	21 century saw _____ progress in 5G technology.
19	heavy industry	With the economic shift in Scotland, declining _____ industry has been partly replaced by small engineering firms and some light industry.
20	heavy rain	Thunderstorms have struck northern China, bringing _____ rain and causing traffic jams.
21	kill animals	Some people become vegetarians because they believe it is healthier not to eat meat or because they think humans should not _____ animals for food.
22	kill time	The passengers in the train _____ time in various ways, by reading, sleeping listening to music and playing cards.
23	false assumption	This view has been attacked on the grounds that it is based on the _____ assumption that the distinction between adults and children is identical with the distinction between rational and non-rational beings.
24	false tooth	She suffered a serious toothache. The dentist extracted the tooth and fitted her a _____ tooth in

		the place.
25	full marks	With a great effort, he got _____ marks in the math exam. (i.e. 100 scores)
26	full moon	We have only one chance to see a _____ moon in clear sky within a month, which is big and bright.
27	flat roof	When compared with sloped roofs, _____ roofs have poor drainage which often seep in heavy rain.
28	flat rate	Domestic water is generally charged at a _____ rate, which does not depend on consumption.
29	light touch	Sometimes even a _____ touch on the face is enough to trigger off this pain.
30	light snack	Morning coffee and afternoon tea are served here, together with some _____ snacks.
31	lose control	The problem is that if opposition to him grows because of economic problems, he may _____ control of his own party.
32	lose weight	He is too fat, so he is trying to _____ weight by doing exercises every day.
33	narrow street	This street is only 4 meter-wide. Cars parking in this _____ street would easily cause obstruction.
34	narrow range	Creatures and plants only able to tolerate a _____ range of temperatures will be most vulnerable, said the researchers.
35	poor family	He was born in a _____ family in a village. The only way to continue his education is to gain a scholarship.
36	poor girl	She is the _____ girl with dead father and mother. Her home was ruined in the earthquake.
37	raise standards	We will _____ standards of education in our schools by investing in better teaching, small-size classes, modern books and equipment.
38	raise money	They opened a fund to _____ money for the

		building of a church for charity.
39	rare disease	Bacterial meningitis is quite a _____ disease but it can be very serious and requires urgent treatment with antibiotics.
40	rare species	Many _____ species of wildlife are in danger of becoming extinct because of a big increase in theft. Conservationists are worried that some species could die out altogether.
41	strong wind	There were eight sunless days. Wind speed averaged 9.3 knots (10.7 mph), and there were 30 hours of _____ wind during the month, resulting in a lot destroyed houses.
42	strong support	With _____ support from her friends, she had managed to raise sufficient finances to set up her business.
43	tell the story	When I was a little girl, my mother would _____ stories about her childhood.
44	tell the difference	It is hard to _____ the difference between _____ seasonal flu and influenza A (H1N1) without medical help.
45	weak points	A cautious person prefers to test the strength of his/her enemies before striking at their _____ points.
46	weak tea	To avoid insomnia, you had better drink _____ tea at night.
47	wide area	The plane crashed into the peak and flipped over, and wreckage is scattered down the hill over _____ area.
48	wide range	The company provides a _____ range of personal services, covering many important issues such as health and safety, child care, training, and the environment, etc.

Appendix E

A Productive test

Please read the following sentences and fill each gap with a word that you think should go there, which could be an adjective, a verb or a noun. A word can be used repeatedly.

For example:

Living by a **busy road**, these animals aren't willing to any chances getting across safely.



Name: _____

1. There are some professional training classes for young school-leavers to _____ qualifications needed for technical jobs.
2. Sweets can make you feel better when you have just had _____ taste of medicine.
3. He likes English very much, so he always actively _____ questions raised by the English teacher in class.
4. The little boy has just _____ a fish from the river but then put it back into the river.
5. This article is only a _____ summary of Darwin's theory of natural selection. If you want to know more details about it, please read this book.
6. "Could you please _____ the door? It is too noisy outside." John said to the examiner.
7. She likes to read books or _____ pictures by the window in her spare time.
8. Abraham Lincoln is a _____ man in American history.
9. With the economic shift in Scotland, declining _____ industry has been partly replaced by small engineering firms and some light industry.
10. Iranian military aircraft flew 100 kilometers (62 miles) inside Iraq to _____ bombs on two military bases in Iraq.
11. With a great effort, he got _____ marks in the math exam. (i.e. 100 scores)
12. This view has been attacked on the grounds that it is based on the _____ assumption that the distinction between adults and children is identical with the distinction between rational and non-rational beings.
13. Sometimes even a _____ touch on the face is enough to trigger off this pain.
14. When compared with sloped roofs, _____ roofs have poor drainage which often seeps in heavy rain.

15. The problem is that if opposition to him grows because of economic problems, he may _____ control of his own party.
16. This street is only 4 meter-wide. Cars parking in this _____ street would easily cause obstruction.
17. Some people become vegetarians because they believe it is healthier not to eat meat or because they think humans should not _____ animals for food.
18. When I was a little girl, my mother would _____ stories about her childhood.
19. We will _____ standards of education in our schools by investing in better teaching, small-size classes, modern books and equipment.
20. With the wind speed averaged 9.3 knots (10.7 mph), 30 hours of _____ wind had destroyed a lot unstable houses.
21. He was born in a _____ family in a village. The only way to continue his education is to gain a scholarship.
22. The plane crashed into the peak and flipped over, and wreckage is scattered down the hill over _____ area.
23. Bacterial meningitis is quite a _____ disease but it can be very serious and requires urgent treatment with antibiotics.
24. A cautious person prefers to test the strength of his/her enemies before striking at their _____ points.
25. Though challenged over the last decade by e-books and online database, paper books remain the most popular way to _____ knowledge.
26. Based on a very limit sample in this research, it is very difficult to _____ conclusions about how the gender of the teacher affects bias in transactions with pupils.

27. The naughty boy deliberately threw a lit match into the girl's lap, causing her dress to _____ fire.
28. The teacher cares about her students so much that she has built a _____ relationship with them.
29. Ten-year is just a very _____ moment in the long course of human history.
30. Losing the game is a _____ blow to the football team and their fans.
31. Could you _____ a hint to me when you want me to talk?
32. Thunderstorms have struck northern China, bringing _____ rain and causing traffic jams.
33. Passengers in the train often _____ time in various ways, by reading, sleeping, listening to music or playing cards.
34. It is her mom's call. She _____ the phone on the first ring.
35. 21 century saw _____ progress in 5G technology.
36. Domestic water is generally charged at a _____ rate, which does not depend on consumption.
37. She suffered a serious toothache. The dentist extracted the tooth and fitted her a _____ tooth in the place.
38. We have only one chance to see a _____ moon in clear sky within a month, which is big and bright.
39. Creatures and plants only able to tolerate a _____ range of temperatures will be most vulnerable, said the researchers.
40. Morning coffee and afternoon tea are served here, together with some _____ snacks.
41. He is too fat, so he is trying to _____ weight by doing exercises every day.
42. They opened a fund to _____ money for the building of a church for charity

43. Many _____ species of wildlife are in danger of becoming extinct because of a big increase in theft. Conservationists are worried that some species could die out altogether.

44. She is the _____ girl with dead father and mother. Her home was ruined in the earthquake.

45. The company provides a _____ range of personal services, covering many important issues such as health and safety, child care, training, and the environment.

46. To avoid insomnia, you had better drink _____ tea at night.

47. It is hard to _____ the difference between seasonal flu and influenza A (H1N1) without medical help.

48. With _____ support from her friends, she had managed to raise sufficient finances to set up her business.

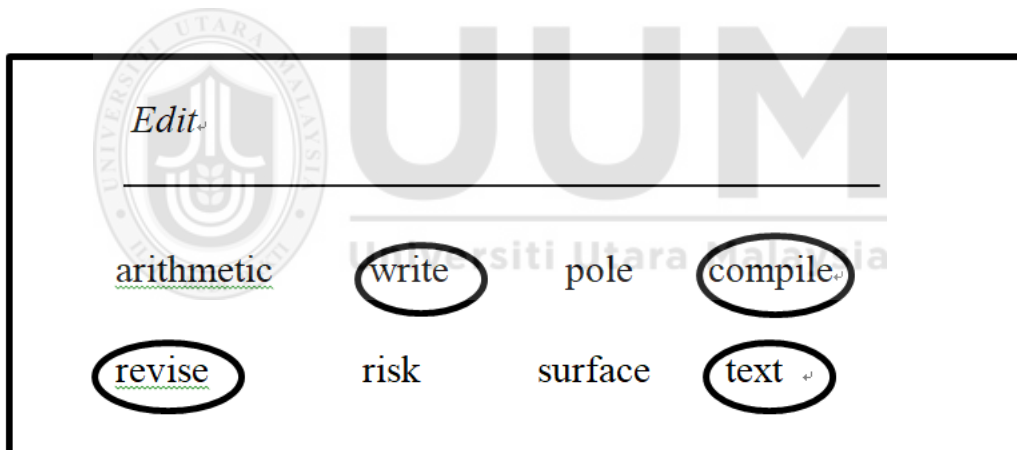


Appendix F

A Test of meaning knowledge of component words

The italicized word on the left-top corner is target word. Please identify words below which have semantically-related associations with the target word (i.e., synonymous or polysomic) and circle them. Please try to give as many answers as you can, even if you are not sure whether the answer is correct or not.

For example:



The example box contains the target word *Edit* at the top left. Below it is a horizontal line. Under the line, the words arithmetic, write, pole, compile, revise, risk, surface, and text are listed. The words write, compile, revise, and text are circled, indicating they are semantically related to 'Edit'. The background features a large 'UUM' watermark and the University of Utara Malaysia logo.

Name: _____

1. *acquire*

climb	suggest	lay	obtain
gain	learn	beat	get

2. *answer*

reply	sold	say	fall
solution	walk	response	climb

3. *bitter*

unhappy	large	direct	cold
round	unpleasant	open	sharp

4. *brief*

digest	able	short	other
honest	silent	concise	condensed

5. *catch*

hold	provide	grasp	suppose
process	capture	cry	attract

6. *close*

special	shut	sweet	almost
near	hungry	low	finish

7. *draw*

pull	feed	live	infer
------	------	------	-------

hope	drag	swim	attract
<hr/>			
8. <i>drop</i>			
fall	rest	leave	pay
abandon	offer	deliver	wear
<hr/>			
9. <i>great</i>			
big	final	similar	good
red	much	long	important
<hr/>			
10. <i>heavy</i>			
thick	green	sunny	abundant
cold	forceful	definite	hard
<hr/>			
11. <i>kill</i>			
wake	destroy	turn	ruin
die	read	murder	work
<hr/>			
12. <i>false</i>			
wrong	easy	mistaken	friendly
unfaithful	various	free	artificial
<hr/>			
13. <i>full</i>			
complete	remote	maximum	possible
busy	fat	lonely	suffer
<hr/>			
14. <i>flat</i>			

level	moved	even	dirty
dull	smooth	serious	blow

15. *light*

fire	flame	illuminate	few
legal	fine	risky	high

16. *lose*

input	drop	cover	miss
leave	create	believe	wander

17. *narrow*

lovely	limited	double	thin
restricted	dead	tight	colorful

18. *poor*

unfortunate	quiet	inadequate	social
warning	enough	deficient	cheap

19. *raise*

lift	rain	increase	circle
function	breed	gather	order

20. *rare*

uncommon	special	seldom	real
happy	clever	beautiful	unusual

21. *strong*

detailed	firm	healthy	different
right	powerful	new	intense

22. *tell*

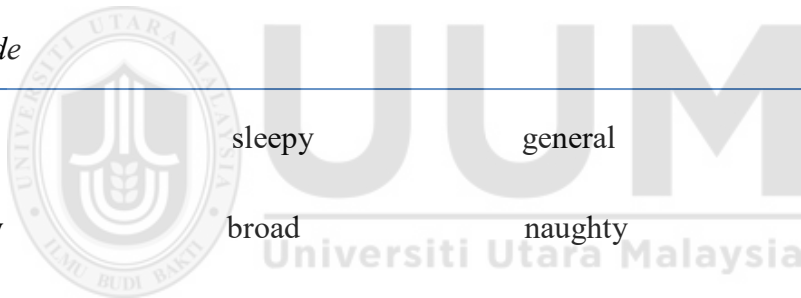
relax	identify	appear	explain
print	speak	save	promise

23. *weak*

delicate	delicious	sick	large
obvious	thin	wet	inactive

24. *wide*

large	sleepy	general	extensive
funny	broad	naughty	tired



Appendix G

A Questionnaire of daily English use

The questionnaire is to collect your personal information and background of language use. Please answer the following questions according to your real situation and write down your response in the space.

Part One: Personal Information

1. Name: _____ Gender: Male Female
2. Major: _____
3. How many years have you been studying English? _____
4. Have you spent some time in English-speaking countries?
 Yes No If yes, how long? _____
5. Do you have study experience in international schools?
 Yes No If yes, how long? _____

Part Two: The time you spend on English use out of class

6. How much time **per week** do you spend on English use out of class?
- a. Reading books in English?**
 Never 1 hour 2 hours 3 hours 4hours _____(definite time)
- b. Visiting English language websites?**
 Never 1 hour 2 hours 3 hours 4hours _____(definite time)
- c. Watch films, videos or TV programs in English per week?**
 Never 1 hour 2 hours 3 hours 4hours _____(definite time)

d. Listen to music, news or talk show in English?

Never 1 hour 2 hours 3 hours 4hours _____(definite time)

e. Use English to communicate with people?

Never 1 hour 2 hours 3 hours 4hours _____(definite time)

Or other activities out of classes related to English use and the time spend on it

