

A Study on Chinese Dostgraduates' Knowledge of English Academic Docabulary

# 中国研究生英语学术词汇知识研究

吴 瑾/著

# 中国研究生英语学术词汇知识研究

A Study on Chinese Postgraduates'
Knowledge of English Academic Vocabulary

吴 瑾 著

科学出版社

北京

#### 内容简介

针对英语学术词汇的研究表明,学术词汇广泛存在于学术交流过程中,并承担一定的篇章组织功能。本书结合第二语言词汇习得研究成果,从接受性词汇量、产出性词汇量、接受性词汇知识深度和产出性词汇知识深度四个维度,通过词汇等级测试、产出性词汇等级测试、词汇深度测试和语料库等多种手段,系统研究了中国研究生英语学术词汇知识的状况及特点,并以学术词汇和一般词汇的关系为切入点,探讨了词汇知识内部各维度之间的关系。

本书适合从事研究生英语教学的教师或外国语言学及应用语言学专业的硕士研究生和博士研究生阅读。

#### 图书在版编目(CIP)数据

中国研究生英语学术词汇知识研究=A Study on Chinese Postgraduates' Knowledge of English Academic Vocabulary /吴瑾著. 一北京: 科学出版社, 2016

ISBN 978-7-03-049070-4

I. ①中… II. ①吴… III. ①研究生-英语-词汇-研究 IV. ①H313 中国版本图书馆 CIP 数据核字(2016)第 141800 号

> 责任编辑: 阎 莉 常春娥/责任校对: 彭珍珍 责任印制: 张 倩/封面设计: 铭轩堂

#### 辞学出版社出版

北京东黄城根北街 16号 邮政编码: 100717

http://www.sciencep.com

三河市骏老印刷有限公司 印刷

科学出版社发行 各地新华书店经销

2016年6月第 一 版 开本: 720×1000 1/16 2016年6月第一次印刷 印张: 14 3/4

字数: 350 000

定价: 75.00 元

(如有印装质量问题, 我社负责调换)

### 前 言

近年来,有关如何改善我国研究生英语教学,以及帮助学生提高学术英语交流能力的研究,在外语教学界正日益受到关注。不少研究表明,学术词汇广泛存在于学术交流过程中,并承担相应的语篇组织功能。国外有关英语学术词汇方面的研究并不鲜见,而国内针对英语学术词汇的系统研究则相对较少,尤其是从第二语言词汇习得角度开展的相关研究则更为少见。本书结合第二语言词汇习得研究成果,系统研究了中国研究生英语学术词汇知识的状况及特点,并以学术词汇和一般词汇的关系为切入点,探讨了词汇知识内部各维度之间的关系。

参照以往对词汇知识的研究,本书首先确定了相应的学术词汇知识框架,包括四个基本维度,即接受性词汇量、产出性词汇量、接受性深度知识和产出性深度知识。在深度方面,本书重点研究了词汇意义和搭配两个侧面。

本书采用实验数据和语料库数据来展开上述各知识维度的研究。数据收集分两阶段进行:第一阶段收集实验数据。上海市两所高校共360名研究生参加了一系列词汇知识测试,包括词汇等级测试、产出性词汇等级测试及词汇深度测试。第二阶段建立语料库。按照构建语料库的一般原则,笔者收集了112篇研究生撰写的学术论文,建立了研究生学术英语语料库(PLCAE)。该语料库含181487个字符,涵盖物理、生物、经济、心理等七个不同专业方向。语料库数据主要用于研究产出性学术词汇知识的深度。

本书的主要发现可归纳为以下六点。

- (1)中国研究生能够掌握大多数学术词汇的基本含义,但由于他们对中低频词汇(如 5000 和 10 000 词频等级上的词汇)的认知率较低,在阅读英文文献时仍有可能面临词汇理解上的困难。
  - (2)研究生的产出性学术词汇量要远低于其接受性学术词汇量。尽管学生对学

术词汇的平均认知率较高(约 92%),但却只能产出 38% 左右的学术词汇。其产出性词汇主要分布在高频词,如 3000 词频等级上。

- (3) 就产出性词汇量和接受性词汇量之间的差距而言,研究生在学术词汇上的 差距要大于其在高频词上的差距;并且,这种差距并不是固定不变的,而是随着 学生英语水平的提高而逐渐降低。
- (4)对研究生接受性学术词汇知识深度的研究显示,学生对这部分词汇意义和 搭配的掌握虽然不是一无所知,但也远没有达到全面掌握的程度。就整体而言, 他们对学术词汇意义的掌握程度要超过对词汇搭配的掌握程度。
- (5)研究涉及的各变量之间,包括接受性学术词汇量、产出性学术词汇量、接受性学术词汇知识深度、接受性一般词汇量和产出性一般词汇量,存在显著正相关,相关值介于 0.394 和 0.640 之间。接受性学术词汇量、接受性学术词汇知识深度 和产出性学术词汇量之间的相关关系证实了 Melka(1997)和Henriksen(1999)等研究者提出的假设。该假设认为词汇知识的深度在词汇从接受到产出的过程中发挥着重要作用。但是,本书也发现接受性学术词汇量与接受性一般词汇量的相关系数,以及产出性学术词汇量与产出性一般词汇量的相关系数均大于它们与学术词汇知识深度之间的相关系数。这一结果表明,除了词汇知识深度之外,其他因素如词汇知识类型等,在词汇的接受一产出的过程中也发挥着不容忽视的作用。
- (6)对研究生学术英语语料库的研究同样表明学生的产出性学术词汇知识深度存在较明显的局限性。就词汇意义而言,学生在学术英语写作中较常使用带有专业性质的意义,但对于那些意义相对抽象或承担一定语篇组织功能的意义则使用较少。就词汇搭配来说,在学习者语料库中出现的搭配词的数目和种类要远远少于本族语者语料库中的搭配词。研究生较少使用表示作者态度或起连接语篇作用的搭配词,并往往倾向于使用不地道的学术词汇搭配。

本书对于第二语言词汇习得理论的研究和我国研究生英语教学实践均具有一定的参考意义。对词汇知识各维度之间关系的研究虽然支持了该领域的相关假设,但也表明它们之间的关系要远比目前文献描述的更为复杂。由于目前第二语言词汇习得研究仍处于早期发展阶段,尚未形成被普遍接受的词汇习得模式,因此不少研究的结果可能只适用于某一特定条件。对此,相关研究人员应有所留意。

词汇知识是一个多维度的结构。对于在学术英语交流中使用频率较高、覆盖 面较广,而学生实际上并没有完全掌握的学术词汇,在研究生英语教学中,有必 要采用多种方式加强学生对于词汇深度的学习,鼓励学生全方位掌握其意义并能灵活、自如地加以应用。

另外,本书建立的研究生学术英语语料库可供感兴趣的研究人员进一步从句 法、篇章等角度开展相关后续研究。

本书共8章。第1章简要介绍了本书的研究背景及意义。第2、3章分别回顾了学术词汇、词汇知识框架及词汇知识测量等领域的研究成果。第4章提出了本书的基本框架。第5章则在此基础上介绍了本书采用的具体技术路径,包括如何测量接受性学术词汇知识的广度和深度,研究生学术英语语料库(PLCAE)的建库方法和原则,以及如何通过该语料库进行产出性学术词汇知识深度的研究。第6、7章深入探讨了本书的结果与发现,第6章以中国研究生的接受/产出性学术词汇知识的广度为重点,第7章聚焦于接受/产出性学术词汇知识的深度。第8章概括了本书的主要发现,并从理论、教学和研究方法等角度提出了建议与启示。

#### **Preface**

Extensive analyses of corpora have revealed the prevalence and importance of academic vocabulary in academic and research settings. Given that one of the objectives of postgraduate English teaching in China is to facilitate postgraduate students with adequate language skills so that they can succeed in future academic study and communication, this book is designed to investigate the postgraduate students' academic vocabulary knowledge and the interrelationships among its various dimensions so as to provide suggestions to better prepare them for their academic learning of English.

In light of previous theoretical and empirical studies of L2 vocabulary acquisition, a tentative conceptual framework of academic vocabulary knowledge has been constructed for this book. This framework incorporates four basic dimensions: receptive size, productive size, depth of receptive vocabulary knowledge, and depth of productive vocabulary knowledge. In the dimension of the depth, two components, meaning and collocation, have been particularly investigated.

Relevant data were collected during two stages. During the first stage, 360 postgraduates from two major universities in Shanghai sat a series of vocabulary tests. Specifically, the adapted Vocabulary Levels Test by Schmitt et al. (2001) was employed for analyzing the postgraduates' receptive academic vocabulary size; the adapted version of the Productive Levels Test (Laufer & Nation, 1999) for their productive academic vocabulary size; the Depth of Receptive Vocabulary Knowledge, developed on the basis of Read's (1993,

1998) and Qian's (2004) studies, for their depth knowledge of receptive academic vocabulary. During the second stage, the academic pieces of writings of 112 postgraduate students from seven different subject fields were collected in order to build a learner corpus of academic English-Postgraduate Learner Corpus of Academic English (PLCAE).

Analyses of the collected data have yielded the following findings.

- (1) Chinese postgraduate students have a large receptive academic vocabulary. On average, they know approximately 92% of the words contained in Coxhead's (2000) Academic Word List (AWL), which is higher than the proportion of the words they know at the word frequency levels of 3,000, 5,000 and 10,000. Nevertheless, these students may still encounter vocabulary problems when they read academic English texts owing to their limited vocabulary size at the 5,000 and the 10,000 levels.
- (2) The postgraduate students' productive size of academic vocabulary is much smaller than their receptive size. On average, they only produce 38% of the word families in the AWL, which is lower than the proportion of the words they produce at the 3,000-word level. This indicates that even though the highest recognition rate is at the AWL, most of the words they can produce are high-frequency words, e.g. words at the 3,000-word level.
- (3) The gap between the productive and receptive size is larger in academic vocabulary than that in high-frequency vocabulary, and the gap narrows with the advancement of the postgraduate students' English proficiency.
- (4) The postgraduate students demonstrate a partial knowledge with regard to the depth of receptive academic vocabulary knowledge. Most academic words are neither completely acquired nor completely new to the students. In addition, the students' knowledge of word meanings outperforms their knowledge of collocation.
- (5) Positive and significant correlations exist among five variables, including receptive/productive size of academic vocabulary, depth of receptive academic vocabulary knowledge, and receptive/productive size of general

vocabulary, with r ranging from 0.394 to 0.640. The correlations among depth of academic vocabulary knowledge, receptive academic vocabulary size and productive academic vocabulary size support the hypothesis, proposed by Melka (1997) and Henriksen (1999), that depth of vocabulary knowledge is an important factor for the process of receptive-productive development. Nonetheless, the relatively stronger correlations between two groups of words of the same type of vocabulary knowledge, i.e. receptive academic vocabulary size vis-à-vis receptive general vocabulary size, productive academic vocabulary size vis-à-vis productive general vocabulary size, reveal that academic vocabulary knowledge is closely related to general vocabulary knowledge. They also imply that Henriksen and Melka's hypothesis may over-simplify the relationship between receptive and productive vocabulary. In the process of receptive-productive development, the effect of type of vocabulary knowledge should not be neglected.

(6) Evidence from the learner corpus of PLCAE also shows that Chinese postgraduate students have a partial knowledge of productive academic vocabulary. With regard to the component of word meanings, the students tend to use the meanings that bear some specialized information in their academic writing, while the meanings that play cohesive roles in organizing academic texts are either underused or not used at all. The students also show deficiency in their knowledge of collocation. They are likely to underuse the collocations that express stance or play cohesive roles, but to use the collocations that are not typical in native speakers' academic writing.

The findings of this book suggest that the relationships among various dimensions of L2 learners' vocabulary knowledge is not as simple as has been described in previous literature. Given that L2 vocabulary acquisition research is still in its early phase, in the process of modeling L2 vocabulary acquisition, a cautious and critical attitude to the research findings in this field is recommended.

This book also identifies an important academic skill that is not well acquired by Chinese postgraduate students. The potential of academic vocabulary has not been fully addressed in postgraduate English teaching in China. Attention has no longer been paid to academic words once their meanings are known. It is suggested that syllabus designers, material developers, classroom teachers, and the students themselves should be aware of the fact that vocabulary knowledge is not an all-or-nothing phenomenon, and treat this set of important words in a variety of complementary ways in order to improve the students' receptive and productive use of them.

In addition, the learner corpus of academic English vocabulary developed in the book provides a useful tool for researchers who are interested in exploring postgraduates' academic writing. This corpus can assist researchers to develop a clearer knowledge about the lexis, discourse, and pragmatics of the students' academic writing.

This book is structured as follows: Chapters 1 mainly introduces the background and the importance of this study. Chapters 2 and Chapter 3 provide an overview of previous studies on academic vocabulary, vocabulary knowledge framework, and measurements of vocabulary knowledge. Chapter 4 establishes a tentative conceptual framework. Chapter 5 introduces methodological issues. Three test instruments that measure receptive size, productive size, and depth of academic vocabulary knowledge are introduced. In addition, the procedures for building the learner corpus-Postgraduate Learners Corpus of Academic English (PLCAE) are described. Chapter 6 and Chapter 7 report the findings of the book, Chapter 6 focuses on the receptive and productive size of academic vocabulary, and Chapter 7 examines the depth of postgraduate students' knowledge of academic vocabulary from both the receptive and productive perspectives. In Chapter 8, the results are summarized. Theoretical, pedagogical and methodological implications, and the limitations of this book are also examined. Lastly, suggestions for future research are proposed.

This book would not have been possible without the help of the following people. First of all, I would like to express my sincere gratitude to my supervisor Professor Wang Tongshun for his dedicated concern and help

throughout the design and conduction of this research project and during the writing of this book. He was a wonderful source of insightful feedback, encouragement and support. He took pains to proofread carefully the whole manuscript and provided valuable suggestions that helped me refine my drafts.

I would also like to thank several researchers who contributed to this book. Professor Wei Naixing and Professor Lei Xiuyun generously provided me with insightful suggestions and the corpus of JDEST; Dr. Yang Xiaohu constantly gave me his statistical advice; Dr. Paul Nation, Dr. Batia Laufer, Dr. Norbert Schmitt and Dr. John Read offered their valuable suggestions on the interpretation of the vocabulary tests used in the book. Professor Zhou Jie, Professor Wang Yaping and Professor Shen Yan gave me full access to their students.

#### List of Abbreviations

AWL Academic Word List

CIA Contrastive Interlanguage Analysis

DVK Depth of Vocabulary Knowledge

DRVK Depth of Receptive Vocabulary Knowledge

EAP English for Academic Purposes

**EFL** English as a Foreign Language

FL Foreign Language

JDEST Jiaotong Daxue English of Science and Technology

L2 Second Language/Foreign Language

L1 First Language

NL Native Language

PLCAE Postgraduate Learner Corpus of Academic English

PLT Productive Levels Test

SLA Second Language Acquisition

UWL University Word List

VLT Vocabulary Levels Test

VKS Vocabulary Knowledge Scale

WAT Word Associates Test

## **Contents**

前言

Preface
List of Figures
List of Tables
List of Abbreviations
Chapter 1 Introduction 1
1.1 Postgraduate English Teaching in China
1.2 The Importance of Academic Vocabulary
1.3 The Scope of Inquiry — 5
1.4 Method Consideration 6
Chapter 2 Academic Vocabulary ······ 8
2.1 Division of the Words in Academic Texts
2.2 Nature of Academic Vocabulary 10
2.3 Studies on Academic Vocabulary
2.4 Academic Vocabulary in Language Teaching
Chapter 3 Vocabulary Knowledge24
3.1 Approaches to Vocabulary Knowledge
3.2 Vocabulary Knowledge Measurement
3.3 Studies on L2 Vocabulary Knowledge
3.4 Conclusions 61
Chapter 4 Conceptual Framework 62
4.1 Academic Words

4.2	Tentative Conceptual Framework of Vocabulary Knowledge65
4.3	Methodological Issues
4.4	Specific Research Questions 74
4.5	Features of Research Design75
4.6	Conclusions76
Chapter	5 Research Design and Its Implementation 77
5.1	Experimental Data77
5.2	Corpus Data ——————————————————————————————————
5.3	Conclusions 89
Chapter	6 Breadth of Academic Vocabulary Knowledge90
6.1	Estimates of Receptive Vocabulary Size91
6.2	Estimates of Productive Academic Vocabulary Size and Vocabulary Size at
	Other Word Levels
6.3	Relationship between Receptive and Productive Academic Vocabulary $\cdots 105$
6.4	Discussion
6.5	Conclusions 117
Chapter	7 Depth of Academic Vocabulary Knowledge ····· 119
7.1	Depth of Academic Vocabulary Knowledge: A Receptive Perspective
7.2	Depth of Academic Vocabulary Knowledge: A Productive Perspective 128
7.3	Conclusions 154
Chapter	8 Conclusions
8.1	Summary of the Findings ————————————————————————————————————
8.2	Implications 158
8.3	Limitations and Recommendations
Referen	nces
Append	lices186

# **List of Figures**

Figure 2.1	Classification of vocabulary in academic texts9
Figure 4.1	Conceptual framework of the book 70
Figure 6.1	Comparison of the percentages of known word families at each
	word level98
Figure 6.2	Comparison of the size of productive and receptive vocabulary
	at each word level
Figure 6.3	Comparison of the percentage of word families produced at each
	word level
Figure 7.1	Semantic distribution of function
Figure 7.2	Semantic distribution of maintain

# **List of Tables**

Table 2.1	Text type and text coverage by the most frequent 2,000 words of
	English and an academic word list in four kinds of texts 20
Table 3.1	What is involved in knowing a word29
Table 4.1	Composition of the Academic Corpus
Table 4.2	Examples of words with common and academic meanings 68
Table 5.1	Format of Vocabulary Levels Test 79
Table 5.2	Scores of vocabulary tests
Table 5.3	Composition of the PLCAE
Table 6.1	Word frequencies and their coverage of average texts91
Table 6.2	Mean, standard deviation, percentage of known words at each
	word level, and the percentage of students reaching the passing
	rate of 90%94
Table 6.3	Mean, standard deviation, percentage of known words at each
	word level, and the percentage of students reaching the passing
	rate of 90% (L-group)96
Table 6.4	Mean, standard deviation, percentage of known words at each
	word level, and the percentage of the students reaching the
	passing rate of 90% (H-group)97
Table 6.5	Tests of within-subjects effects99
Table 6.6	Tests of between-subjects effects 99
Table 6.7	Multivariate tests of between-subjects effects 100

Table 6.8	Mean, standard deviation, and percentage of the words
	produced at each word level $\cdots \cdots 100$
Table 6.9	Mean, standard deviation, and percentage of produced words
	at each word level (L-group) 102
Table 6.10	Mean, standard deviation, and percentage of produced words
	at each word level (H-group)
Table 6.11	Tests of within-subjects effects
Table 6.12	Tests of between-subjects effects
Table 6.13	Multivariate tests of between-subjects effects 105
Table 6.14	Pearson correlations among receptive/productive academic
	vocabulary size, and receptive/productive general vocabulary
	size106
Table 6.15	Vocabulary size and P/R ratio at each word level ····· 107
Table 6.16	Comparison of vocabulary size and P/R ratios between the
	H-group and the L-group 107
Table 7.1	Means, SD, and percentages of correct answers of the DRVK $\cdots$ $120$
Table 7.2	Means, SD, and percentages of correct answers of two groups $\cdots 121$
Table 7.3	Independent sample $t$ test: differences of $t$ the two groups in
	scores on the DRVK121
Table 7.4	Means, SD, percentages of correct responses of different
	components of the DRVK121
Table 7.5	Independent $t$ tests: differences of the two groups in scores on
	two components of the DRVK122
Table 7.6	Pearson correlations among receptive size, productive size and
	depth123
Table 7.7	Typical collocates of research in the sub-JDEST 142
Table 7.8	Typical collocates of research in the PLCAE 144
Table 7.9	Typical collocates of <i>indicate</i> in the sub-JDEST149
Table 7.10	Typical collocates of <i>indicate</i> in the PLCAE