贵州大学人文社科学术出版基金项目

Guizhou University Humanity and Social Science Academic Publishing Fund

二语阅读研究: 屏幕阅读和纸质阅读

A COMPARATIVE STUDY OF SECOND LANGUAGE READING COMPREHENSION FROM COMPUTER SCREEN AND PAPER

尤春芝 著

本研究建议在基于计算机的多媒体英语阅读教学中,应该考虑到计算机水平和阅读策略的使用,并且应该在英语阅读教学中增加计算机培训课程,对学生进行计算机技能和基于计算机的阅读策略的训练,目的是为非英语专业学生进行多媒体网络英语学习作好准备。

贵州大学人文社科学术出版基金项目

Guizhou University Humanity and Social Science Academic Publishing Fund

A COMPARATIVE STUDY OF SECOND LANGUAGE READING COMPREHENSION FROM COMPUTER SCREEN AND PAPER

二语阅读研究: 屏幕阅读和纸质阅读

尤春芝 著

贵州大學出版社 Guizhou University Press

图书在版编目(CIP)数据

二语阅读研究: 屏幕阅读和纸质阅读 / 尤春芝著. --

贵阳: 贵州大学出版社, 2011.8

ISBN 978-7-81126-400-5

Ⅰ. ①二… Ⅱ. ①尤… Ⅲ. ①第二语言一阅读教学一 研究 IV. ①H003

中国版本图书馆CIP数据核字(2011)第177919号

A COMPARATIVE STUDY OF SECOND LANGUAGE READING COMPREHENSION FROM COMPUTER SCREEN AND PAPER

二语阅读研究: 屏幕阅读和纸质阅读

著 者: 尤春芝

责任编辑: 立 道 廖 波

出版发行: 贵州大学出版社有限责任公司

印 刷: 贵阳佳迅印务有限公司

开 本: 889毫米×1194毫米 1/32

张: 7.5 印 字 数: 290千

版 次: 2011年8月第1版 第1次印刷 书 号: 978-7-81126-400-5

定 价: 20.00元

版权所有 违权必究

本书若出现印装质量问题, 请与印刷厂联系调换

电话: 0851-5767766

Summary

This study aimed to examine the effects of text presentation, computer literacy and text familiarity on reading comprehension of Chinese college non-English major students. The reading strategies employed when reading from two presentation modes and the students' attitudes toward computers and paper was also investigated.

Text presentation is operationally defined as the medium through which a text is displayed. In this case, it refers to the computer screen or paper. Computer literacy refers to the basic knowledge and skills to deal with computer technology, involving three levels: low, moderate and high in the present study. In addition, text familiarity is operationally defined as the prior knowledge or background knowledge of the subject matter of the relevant text. This study includes two familiar texts and two unfamiliar texts. One hundred and twenty Chinese first-year college non-English major students participated in the study. Reading Comprehension Test and Reading Strategy Questionnaire and Semi-structured interviews were employed as the main instruments for data collection. The statistical methods employed to analyze the quantitative data include means, standard deviation and a mixed-design ANOVA. Content analysis was used to analyze the qualitative data.

The findings revealed that there were significant main effects for computer literacy and text familiarity on reading comprehension, but no significant main effects for text presentation. The findings showed that there were no significant two-way interactions between text presentation and computer literacy, between text presentation and text familiarity, while there was two-way interaction between computer literacy and text familiarity. The results also revealed no significant three-way interaction among the three independent variables (text presentation, computer literacy and text familiarity) was found. The findings of strategy survey showed that the statistically significant differences in overall strategy use were found between the computer reading group and the paper reading group; however, the significant differences were only shown in the use of Support Reading Strategies (SUP). Furthermore, the moderate use of overall strategies as well as the subscales strategies was also reported by the students when reading on two text presentation media.

The study suggested that in computer-based English reading instruction courses, the students' computer literacy level and reading strategies should be taken into consideration and a program of computer training to teach computer skills and computer-based reading strategy training should be introduced in order to prepare students for learning English via computers.

Keyword: Text presentation Computer literacy Text familiarity Reading comprehension Reading strategy from computer screen and paper

摘要

本研究目的主要在于对文本呈现方式、计算机水平、文本熟悉度 等变量对中国非英语专业学生阅读理解的影响进行定量和定性研究。其 次,本研究还对学生在屏幕阅读和纸质阅读环境下采用的阅读策略进行 了调查。

文本呈现方式被定义为文本的载体,本研究指的是计算机和纸质载体。计算机水平指的是应用计算机的基础知识和技能,本研究包括了低、中、高三种水平。文本熟悉度被定义为对相关文本题材的先前知识或背景知识,本研究包括二篇熟悉的文本和二篇不熟悉的文本。有一百二十名一年级非英语专业中国学生参加了本研究。阅读理解测试题、阅读策略问卷调查表和半结构化访谈作为数据收集的主要工具。分析统计数据的方法包括:均值、标准偏差和混合设计方差分析、内容分析法用于分析定性数据。

研究结果显示:一、计算机水平和文本熟悉度对阅读理解力有显著主效应,但是文本呈现方式对阅读水平没有显著主效应;二、文本呈现方式和计算机水平之间、文本呈现方式和文本熟悉度之间没有显著的交互效应,而计算机水平和文本熟悉度之间有显著的交互效应;三、三个自变量(文本呈现方式、计算机水平和文本熟悉度)之间没有显著的交互效应。阅读策略调查的研究结果表明,计算机阅读组和纸质阅读组在整体策略使用上有显著差异。然而,显著差异只是体现在辅助式阅读策略(Support Reading Strategies)这个类别上。此外,学生在问卷中表示整体策略使用度以及三个类别(Subscales)的策略使用度为中等。

本研究建议在基于计算机的多媒体英语阅读教学中,应该考虑到 计算机水平和阅读策略的使用,并且应该在英语阅读教学中增加计算机 培训课程,对学生进行计算机技能和基于计算机的阅读策略的训练,目 的是为非英语专业学生进行多媒体网络英语学习作好准备。 **关键词:** 文本呈现方式 计算机水平 文本熟悉度 阅读理解 屏幕 阅读和纸质阅读策略

ACKNOWLEDGEMENTS

There are many people to whom I would like to express my gratitude during my doctoral work.

First of all, my deepest appreciation would go to my supervisor, Dr. Peerasak Siriyothin, for his linguistic expertise, his kind assistance and valuable comments. I greatly appreciate his insightful and timely supervision at various stages of the dissertation process. I am also indebted to the members of my doctoral committee Dr. Sarit Srikhao, Dr. Dhirawit Pinyonatthagarn, Assoc. Prof. Dr. Kanit Khaimook, and the external examiner, Asst. Prof. Dr. Apisak Pupipat, for their valuable comments and suggestions.

My grateful thanks go to the former Chair of School of English, Asst. Prof. Dr Siriluck Usaha, without her kind help and encouragement; I could not come and continue my study for a doctoral degree. Many thanks also go to Assoc. Prof. Songporn Tachareornsak, Asst. Prof. Dr. Channarong Intraraprasert, Asst. Prof. Dr. Pannathon Sangarun, Dr. Sirinthorn Seepho, and the other instructors and the staff in the School of English, at Suranaree University of Technology (SUT) for their knowledge and their kind help.

I owe my debts to the dean of College of International Language Studies at Guizhou University, Prof. Wang Jianfang, for her understanding and support. I would also like to thank my colleagues Assoc. Prof. He Xinlan, Assoc. Prof. Hong Yun and many others at College of English Department, Guizhou University. Without their generous support and encouragement, this dissertation would not have been accomplished.

My special gratitude goes to my dearest friends An May, who have supported me spiritually all along the way. My special thanks also goes to Zhou Lin, Wang Jun, Duan Lingli, Caihui, Liu Xuyang and Li Yurong who always encouraged me and helped me when I was in difficulties. Appreciation is also extended to my unforgettable friends: Thanaporn Pantawee, Mayuree Siriwan, Panida Tasee for their generous help and support during my staying at SUT.

I would express my deepest thanks to my family: mother, mother-in-law, brothers and sisters for their emotional support and encouragement.

Last but not the least, I would like to express my heartfelt and utmost appreciations to my husband, Wang Lin and my daughter, Wang Youxi who are always there to cheer me up and provide me with their generous help and moral support in different aspects.

Chunzhi You

TABLE OF CONTENTS

CHAPTER I INTRODUCTION

1.1 Dackground of the Study	1
1.2 Statement of the Problem	5
1.3 Purposes of the Study	10
1.4 Research Questions	10
1.5 Definitions of the Key Terms	11
1.6 Significance of the Study	12
1.7 Summary	13
CHAPTER II	
CHAPTER II LITERATURE REVIEW	
	14
LITERATURE REVIEW	
LITERATURE REVIEW 2.1 Second Language Reading and Reading Theories	14
LITERATURE REVIEW 2.1 Second Language Reading and Reading Theories 2.1.1 The Nature of Second Language Reading	14 16
LITERATURE REVIEW 2.1 Second Language Reading and Reading Theories 2.1.1 The Nature of Second Language Reading	14 16 22
LITERATURE REVIEW 2.1 Second Language Reading and Reading Theories 2.1.1 The Nature of Second Language Reading	14 16 22
LITERATURE REVIEW 2.1 Second Language Reading and Reading Theories 2.1.1 The Nature of Second Language Reading	14 16 22 22

000 ID II C	
2.3 Computer Literacy and Reading Comprehension	
2.3.1 Theoretical Background	31
2.3.2 Research on Computer Literacy and Comprehension	33
2.4 Text Familiarity and Reading Comprehension	37
2.4.1 Theoretical Background	37
2.4.2 Research on Text Familiarity and Reading	
Comprehension	37
2.5 Reading Strategies and Reading Comprehension	41
2.5.1 Conceptual Framework of Reading Strategies	41
2.5.2 Classifications of Reading Strategies	42
2.5.3 Assessing Reading Strategies	44
2.5.4 Research on Reading Strategies	44
CHAPTER III	
CHAPTER III RESEARCH METHODOLOGY	
CHAPTER III RESEARCH METHODOLOGY	
RESEARCH METHODOLOGY 3.1 Rationale for Research Methodology	
RESEARCH METHODOLOGY	
RESEARCH METHODOLOGY 3.1 Rationale for Research Methodology	50
RESEARCH METHODOLOGY 3.1 Rationale for Research Methodology	50 50
RESEARCH METHODOLOGY 3.1 Rationale for Research Methodology 3.2 Subjects 3.3 Instruments	50 50 51
RESEARCH METHODOLOGY 3.1 Rationale for Research Methodology	50 50 51 52
RESEARCH METHODOLOGY 3.1 Rationale for Research Methodology	50 50 51 52 55
RESEARCH METHODOLOGY 3.1 Rationale for Research Methodology	50 50 51 52 55 60
RESEARCH METHODOLOGY 3.1 Rationale for Research Methodology 3.2 Subjects 3.3 Instruments 3.3.1 National Computer Rank Examination (Grade One) 3.3.2 Questionnaire 3.3.3 Reading Comprehension Test 3.3.4 Semi-Structured Interviews	50 50 51 52 55 60

3.6.1 Quantitative Data Analysis	63
3.6.1.1 Descriptive Statistics	63
3.6.1.2 ANOVA	65
3.6.1.3 Independent Samples T-test	65
3.6.1.4 Mixed Design ANOVA	
3.6.2 Qualitative Data Analysis	66
3.7 Pilot Study	
3.7.1 Subjects	67
3.7.2 Procedures	67
3.7.3 Data Analysis	68
3.7.3.1 Questionnaires	68
3.7.3.2 Reading Comprehension Test	69
3.7.3.3 Semi-Structured Interview	71
3.7.4 Results of the Pilot Study	71
3.7.4.1 Reading Comprehension Test	71
3.7.4.2 Post-Experiment Reading Strategy	
Questionnaire	74
3.7.5 Implications for the Main Study	77
3.8 Main Study	78
3.8.1 Subjects	78
3.8.2 Data Collection Procedures	80
3.8.2.1 Phase I: Pre-Experiment Phase	80
3.8.2.2 Phase II: Experimental Phase	81
3.8.2.3 Phase III: Post-Experiment Phase	82
2 9 2 Summary	84

CHAPTER IV RESULTS

4.1 Answer to Research Question 185
4.1.1 Descriptive Statistics for Text Presentation
4.1.2 Mixed Design ANOVA Analysis for Text
Presentation
4.2 Answer to Research Question 2 87
4.2.1 Descriptive Statistics for Computer Literacy
4.2.2 Mixed Design ANOVA Analysis for
Computer Literacy89
4.3 Answer to Research Question 390
4.3.1 Descriptive Statistics for Text Familiarity
4.3.2 Mixed Design ANOVA Analysis for Text
Familiarity
4.4 Answer to Research Question 4
4.4.1 Two-way Interaction between Text Presentation
and Computer Literacy93
4.4.2 Two-way Interaction between Text Presentation
and Text Familiarity95
4.4.3 Two-way Interaction between Computer Literacy
and Text Familiarity96
4.4.4 Three-way Interaction among Text Presentation,
Computer Literacy and Text Familiarity99

4.5.1 Quantitative Data from PERSQ	. 101
4.5.1.1 Differences in Overall Reading Strategy	
Use between Two Presentation Groups	. 103
4.5.1.2 Differences of Subjects' Reading Strategy	
Use of the Three Subscales between Computer	
and Paper Group	. 106
4.5.2 Qualitative Data from Semi-Structured	
Interview	. 108
4.6 Answer to Research Question 6	. 119
4.7 Summary	. 125
CHAPTER V	
CHAPTER V DISCUSSION AND CONCLUSIONS	
	. 126
DISCUSSION AND CONCLUSIONS	. 126
DISCUSSION AND CONCLUSIONS 5.1 Discussion	
DISCUSSION AND CONCLUSIONS 5.1 Discussion	
DISCUSSION AND CONCLUSIONS 5.1 Discussion 5.1.1 Effects of Text Presentation on Reading Comprehension	. 127
DISCUSSION AND CONCLUSIONS 5.1 Discussion 5.1.1 Effects of Text Presentation on Reading Comprehension 5.1.2 Effects of Computer Literacy on Reading	. 127
DISCUSSION AND CONCLUSIONS 5.1 Discussion 5.1.1 Effects of Text Presentation on Reading Comprehension 5.1.2 Effects of Computer Literacy on Reading Comprehension	. 127 . 128
DISCUSSION AND CONCLUSIONS 5.1 Discussion 5.1.1 Effects of Text Presentation on Reading Comprehension 5.1.2 Effects of Computer Literacy on Reading Comprehension 5.1.3 Effects of Text Familiarity on Reading	. 127 . 128
DISCUSSION AND CONCLUSIONS 5.1 Discussion 5.1.1 Effects of Text Presentation on Reading Comprehension 5.1.2 Effects of Computer Literacy on Reading Comprehension 5.1.3 Effects of Text Familiarity on Reading Comprehension	. 127 . 128 . 130
DISCUSSION AND CONCLUSIONS 5.1 Discussion 5.1.1 Effects of Text Presentation on Reading Comprehension 5.1.2 Effects of Computer Literacy on Reading Comprehension 5.1.3 Effects of Text Familiarity on Reading Comprehension 5.1.4 Interactions between and among Text Presentation,	. 127 . 128 . 130
5.1 Discussion	. 127 . 128 . 130 . 131

5.1.5.1 Reading Strategies Frequently Used and
Least Used by Subjects
5.1.5.2 Reading Strategies Frequently Used
by Subjects 136
5.1.5.3 Reading Strategies Least Used by Subjects 138
5.1.5.4 Differences in the Use of Support Reading
Strategies between Reading from Computers
and from Paper 140
5.1.6 Attitudes toward Reading from Computers and
from Paper
5.1.6.1 General Attitudes toward Computer Use 142
5.1.6.2 Preconceptions
5.1.6.3 Affective Components of Attitudes towards
Reading from Computers and from Paper 143
Reading from Computers and from Paper
• •
5.1.6.4 Preference
5.1.6.4 Preference 144 5.2 Conclusions 146
5.1.6.4 Preference 144 5.2 Conclusions 146 5.3 Implications and Recommendations 149
5.1.6.4 Preference 144 5.2 Conclusions 146 5.3 Implications and Recommendations 149 5.4 Limitations and Suggestions for Further Research 153
5.1.6.4 Preference 144 5.2 Conclusions 146 5.3 Implications and Recommendations 149 5.4 Limitations and Suggestions for Further Research 153
5.1.6.4 Preference 144 5.2 Conclusions 146 5.3 Implications and Recommendations 149 5.4 Limitations and Suggestions for Further Research 153
5.1.6.4 Preference 144 5.2 Conclusions 146 5.3 Implications and Recommendations 149 5.4 Limitations and Suggestions for Further Research 153 5.5 Summary 154
5.1.6.4 Preference 144 5.2 Conclusions 146 5.3 Implications and Recommendations 149 5.4 Limitations and Suggestions for Further Research 153 5.5 Summary 154 REFERENCES 156
5.1.6.4 Preference 144 5.2 Conclusions 146 5.3 Implications and Recommendations 149 5.4 Limitations and Suggestions for Further Research 153 5.5 Summary 154 REFERENCES 156 APPENDIX A 171

APPENDIX E	204
APPENDIX F	208
APPENDIX G	210
APPENDIX H	215

LIST OF TABLES

Table	3.1	Description of the Four Passages 72
Table	3.2	Frequency of Text Familiarity for Four passages 73
Table	3.3	Results of Item Analysis of Reading Comprehension
		Test Items
Table	4.1	Descriptive Results for Text Presentation 86
Table	4.2	Mixed Design ANOVA Results of the Reading
		Comprehension for Text Presentation 87
Table	4.3	Descriptive Statistics for Comprehension Means
		and Standard Deviation in Terms of
		Computer Literacy
Table	4.4	Mixed Design ANOVA Results of the Reading
		Comprehension in Terms of Computer Literacy 89
Table	4.5	Results of Multiple Comparisons for Computer
		Literacy
Table	4.6	Descriptive Statistics for Reading Comprehension
		in Terms of Text Familiarity

Table	4.7	Mixed Design ANOVA Results of Reading
		Comprehensionin in Terms of Text Familiarity 92
Table	4.8	Descriptive Statistics for Comprehension Means and
		Standard Deviation in Terms of Text Presentation and
		Computer Literacy93
Table	4.9	Mixed Design ANOVA Results for Interaction between
		Text Presentation and Computer Literacy94
Table	4.10	Descriptive Statistics for Reading Comprehension in
		Terms of Text Familiarity and Text Presentation 95
Table	4.11	Mixed Design ANOVA Results for Interaction of
		Text Presentation and Text Familiarity96
Table	4.12	Descriptive Statistics for Reading Comprehension
		in Terms of Computer Literacy and Text Familiarity $\ldots .96$
Table	4.13	Mixed Design ANOVA Results for Interaction of
		Computer Literacy and Text Familiarity97
Table	4.14	Results of Simple Effects Tests for Interaction
		between Computer Literacy and Text Familiarity 98
Table	4.15	Descriptive Statistics for Comprehension in Terms of
		Text Presentation, Computer Literacy and Text
		Familiarity
Table	4.16	Mixed Design ANOVA Results for Interaction of
		Text Presentation, Computer Literacy and Text
		Familiarity
Table	4.17	Comparisons of the Differences of Strategy
		Use between Groups 104