UNIVERSITI PUTRA MALAYSIA

EFFECTS OF ORTHOGRAPHY ON PRODUCTION AND PERCEPTION OF ENGLISH INITIAL CONSONANT CLUSTERS BY L1 PERSIAN SPEAKERS

PARISA KARIMI BAVANDPOUR

FBMK 2014 18

EFFECTS OF ORTHOGRAPHY ON PRODUCTION AND PERCEPTION OF ENGLISH INITIAL CONSONANT CLUSTERS BY L1 PERSIAN SPEAKERS

By

PARISA KARIMI BAVANDPOUR

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfilment of the Requirements for the Degree of Master of Arts

June 2014

© COPYRIGHT UPM

COPYRIGHT

All material contained within the thesis, including without limitation text, logos, icons, photographs and all other artwork, is copyright material of Universiti Putra Malaysia unless otherwise stated. Use may be made of any material contained within the thesis for non-commercial purposes from the copyright holder. Commercial use of material may only be made with the express, prior, written permission of Universiti Putra Malaysia.

Copyright © Universiti Putra Malaysia.

© COPYRIGHT UPM

Abstract of the thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of requirement for the degree of Master of Arts

EFFECTS OF ORTHOGRAPHY ON PRODUCTION AND PERCEPTION OF ENGLISH INITIAL CONSONANT CLUSTERS BY L1 PERSIAN SPEAKERS

By

PARISA KARIMI BAVANDPOUR

June 2014

Chair: Assoc. Prof. Yap Ngee Thai, Ph.D.
Faculty: Modern Languages and Communication

There are different views on how systems of speech perception and production function and if they are governed by the same system of rules and restrictions. The interrelation between learners' perceptual and productive learning remains one of the central questions for investigation. This study investigated the influence of L1 orthography on Persian speakers' production and perception of English initial consonant clusters. In contrast to English, word-initial consonant clusters do not occur in Persian. This structural difference between Persian and English may lead to L1 interference and cause errors in the production and perception of L2 sounds. Previous studies reported that Persian speakers insert a vowel to break up the initial consonant clusters to comply with their L1 phonotactic rules. It was hypothesized that Persian speakers may depend on their first language orthography for reading in English and may produce more errors when faced with orthographic representation of words containing initial consonant clusters. In the perception of these clusters, Persian speakers were hypothesized to assimilate the consonant clusters to clusters containing vowels in order to adapt it to their native language phonology. To examine the production and perception of initial consonant clusters among Persian speakers and the effect of orthography, two production tasks and two perception tasks with different conditions were conducted. The first production task was a pseudoword repetition task with no orthographic representation and the second task was a pseudoword reading task with orthographic representation. The results from the speech production experiments showed fewer cases of vowel epenthesis when repeating the auditory stimuli, whereas, a significantly higher amount of vowel epenthesis occurred in reading the pseudowords. The results showed the inhibiting

© COPYRIGHT UPM

effect of orthography on speech production and its impact on the intelligibility of speech. In the perception tasks, there was an auditory task with no orthographic representation and an orthography task with orthographic representation. The results from the perception experiments showed significantly better performance with the visually presented pseudowords than the aurally presented pseudowords. In contrast to production, the findings suggest a facilitating effect of orthography on the perception of non-native consonant clusters. Persian speakers could create lexically contrastive representations for auditorily presented pseudowords containing initial consonant clusters when they were provided with visual support in the form of written forms. The results of the tasks showed that production and perception are not mirror images of one another, and are not governed by the same system of rules and restrictions.

© COPYRIGHT UPM

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagi memenuhi keperluan untuk ijazah Master Sastera

KESAN ORTOGRAFI KEPADA PERSEPSI DAN PENGHASILAN KELOMPOK KONSONAN AWALAN BAHASA INGGERIS OLEH PENUTUR ASAL BAHASA PARSI

Oleh

PARISA KARIMI BAVANDPOUR

June 2014

Pengerusi: Prof. Madya. Yap Ngee Thai, Ph.D.
Faculti: Bahasa Moden dan Komunikasi

Terdapat pandangan yang berbeza tentang bagaimana sistem penghasilan dan persepsi berfungsi dan sama ada sistem-sistem ini dikawal oleh sistem peraturan dan pembatasan yang sama. Hubungan timbal-balik antara persepsi pelajar dan pembelajaran produktif kekal sebagai salah satu soalan utama untuk dikaji. Kajian ini menyiasat pengaruh ortografi L1 terhadap produksi dan persepsi penutur bahasa Parsi bagi kelompok konsonan awalan bahasa Inggeris. Berbeza dengan bahasa Inggeris, bahasa Parsi tidak mempunyai perkataan bagi kelompok konsonan awalan. Perbezaan struktur antara bahasa Parsi dan bahasa Inggeris boleh membawa kepada gangguan L1 dan menyebabkan kesalahan dalam penghasilan dan persepsi bunyi L2. Kajian terdahulu melaporkan bahawa penutur bahasa Parsi memasukkan vokal untuk menyuraikan kelompok konsonan awalan untuk mematuhi peraturan fonotaktik L1 mereka. Adalah dihipotesiskan bahawa penutur bahasa Parsi mungkin bergantung kepada bahasa ortografi pertama mereka bagi membaca dalam bahasa Inggeris dan boleh menyebabkan lebih banyak kesalahan apabila bertemu dengan perwakilan ortografi bagi perkataan-perkataan yang mengandungi kelompok konsonan awalan. Danipada segi persepsi kelompok-kelompok ini, adalah dihipotesiskan bahawa penutur bahasa Parsi mengasimilasikan kelompok konsonan dengan kelompok yang mengandungi huruf vokal untuk menyesuaikannya dengan fonologi bahasa ibunda mereka. Untuk menyelidik penghasilan dan persepsi bagi kelompok konsonan awalan di kalangan penutur bahasa Parsi dan kesan ortografi, dua tugasan penghasilan dan dua tugasan persepsi dengan keadaan yang berbeza telah dijalankan. Tugasan pengeluaran pertama adalah pengulangan kata-palsu tanpa perwakilan ortografi dan tugasan kedua adalah pembacaan kata-palsu dengan perwakilan ortografi. Keputusan daripada kajian penghasilan ucapan menunjukkan kes-kes yang lebih sedikit berkenaan

© COPYRIGHT UPM

epentesis vokal dengan pengulangan rangsangan auditori, manakala terdapat jumlah epentesis vokal yang lebih tinggi berlaku dalam pembacaan kata-palsu. Hasil kajian menunjukkan kesan perencatan oleh ortografi terhadap penghasilan ucapan dan kesannya terhadap kebolehfahaman ucapan. Dalam tugasan persepsi, terdapat tugasan auditori dengan ketiadaan perwakilan ortografi dan juga tugasan auditori dengan kehadiran perwakilan ortografi. Dapatan daripada kajian persepsi menunjukkan prestasi yang jauh lebih baik dengan kehadiran kata-palsu secara visual daripada kehadiran kata-palsu secara aural. Berbeza dengan penghasilan, penemuan membayangkan kesan memudahkan oleh ortografi terhadap persepsi kelompok konsonan bukan daripada Bahasa ibunda. Penutur bahasa Parsi boleh mewujudkan perwakilan secara leksikal bagi kata-palsu yang dipersembahkan secara auditori yang mengandungi kelompok konsonan awalan apabila mereka diberikan sokongan visual dalam bentuk penulisan. Keputusan daripada penghasilan dan persepsi tugas menunjukkan mereka bukanlah imej cermin sesama sendiri, dan juga tidak dikawal oleh sistem peraturan and pembatasan yang sama.

© COPYRIGHT UPM

ACKNOWLEGEMENTS

This dissertation would not have been possible without the guidance and the help of several individuals who in one way or another contributed and extended their valuable assistance in the preparation and completion of this study. First of all, I would like to thank my committee members who were more than generous with their expertise and precious time. I would like to express the deepest appreciation to my committee chair Dr. Yap Ngee Thai, for her patient guidance, enthusiastic encouragement and useful critiques of this research work and her unfailing support throughout the entire process. I would also like to offer my special thanks to Dr. Chan Mei Yuit for her support and valuable and constructive suggestions during the planning and development of this research work.

I am deeply grateful to Nima Khoshsirat for assisting me with the softwares throughout the research. Finally, I would like to express my gratitude to Mr. Donald Clark for providing me with the audio recordings which were used in the design of the tasks in this study.

© COPYRIGHT UPM

This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirements for the degree of Master of Arts. The members of the Supervisory Committee were as follows:

Yap Ngee Thai, PhD
Associate Professor
Faculty of Modern Languages and Communication
Universiti Putra Malaysia
(Chairperson)

Chan Mei Yuit, PhD
Senior Lecturer
Faculty of Modern Languages and Communication
Universiti Putra Malaysia
(Member)

BUJANG BIN KIM HUAT, PhD
Professor and Dean
School of Graduate Studies
Universiti Putra Malaysia

Date:

© COPYRIGHT UPM

Declaration by graduate student

I hereby confirm that:

- this thesis is my original work;
- quotations, illustrations and citations have been duly referenced;
- this thesis has not been submitted previously or concurrently for any other degree at any other institutions;
- intellectual property from the thesis and copyright of thesis are fully-owned by Universiti Putra Malaysia, as according to the Universiti Putra Malaysia (Research) Rules 2012;
- written permission must be obtained from supervisor and the office of Deputy Vice-Chancellor (Research and Innovation) before thesis is published (in the form of written, printed or in electronic form) including books, journals, modules, proceedings, popular writings, seminar papers, manuscripts, posters, reports, lecture notes, learning modules or any other materials as stated in the Universiti Putra Malaysia (Research) Rules 2012;
- there is no plagiarism or data falsification/fabrication in the thesis, and scholarly integrity is upheld as according to the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-2013) and the Universiti Putra Malaysia (Research) Rules 2012. The thesis has undergone plagiarism detection software.

Signature: _____ Date: _____

Name and Matric No.: _____

© COPYRIGHT UPM

Declaration by Members of Supervisory Committee

This is to confirm that:

- the research conducted and the writing of this thesis was under our supervision;
- supervision responsibilities as stated in the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-2013) are adhered to.

Signature:	_____	Signature:	_____
Name of Chairman of Supervisory Committee:	_____	Name of Member of Supervisory Committee:	_____
Signature:	_____	Signature:	_____
Name of Member of Supervisory Committee:	_____	Name of Member of Supervisory Committee:	_____

© COPYRIGHT UPM

TABLE OF CONTENTS

		Page
ABSTRACT		**i**
ABSTRAK		**iii**
ACKNOWLEDGEMENTS		**v**
APPROVAL		**vi**
DECLARATION		**viii**
LIST OF TABLES		**xiii**
LIST OF FIGURES		**xiv**
LIST OF ABBREVIATIONS		**xvi**
CHAPTER		
1	**INTRODUCTION**	1
	1.1 Background	1
	1.2 Problem Statement	3
	1.3 Research Objectives and Research Questions	4
	1.4 Theoretical Framework	5
	1.4.1 Production	5
	1.4.2 Perception	7
	1.4.3 Orthography	8
	1.5 Conceptual Framework	10
	1.6 Research Hypothesis	11
	1.7 Significance of the Study	12
2	**LITERATURE REVIEW**	14
	2.1 Speech Production and Speech Perception	14
	2.2 Consonant Clusters	16
	2.2.1 Producing Consonant Clusters	16
	2.2.2 Perceiving Consonant Clusters	19
	2.2.3 Consonant Clusters in Persian, English, and Malay	21
	2.3 Vowel Epenthesis	23
	2.3.1 Prosthesis and Anaptyxis	23
	2.3.2 Vowel Epenthesis by Persian Speakers of English	25
	2.4 Orthography	26
	2.4.1 Persian Orthography	26
	2.4.2 English Orthography	27
	2.4.3 Malay Orthography	27
	2.4.4 Effect of orthography on L2	28
	2.4.5 Effect of Orthography on Speech	30

© COPYRIGHT UPM

DEDICATIONS

I dedicate my dissertation to my parents for their endless love, support and encouragement. I express my heartfelt gratitude to them whose good examples have taught me to work hard for the things that I aspire to achieve.

I lovingly dedicate this dissertation to my husband, who has always stood by me and supported me each step of the way.

© COPYRIGHT UPM

Production
2.4.6 Effect of Orthography on Speech Perception 33
2.5 Proficiency 36
2.6 Pseudowords 38
2.7 Frequency and Neighborhood Density 40
2.8 Summary 41

3 METHODOLOGY 43
3.1 Research Design 43
3.2 Participants 46
3.3 Instruments 47
3.3.1 Production Tasks 48
3.3.2 Perception Tasks 50
3.4 Research Procedure 53
3.5 Data Analysis 53
3.5.1 Production 53
3.5.2 Perception 55
3.6 Pilot Study 55

4 RESULTS AND DISCUSSION 58
4.1 Production Tasks 58
4.1.1 Assignment of Persian Participants to Proficiency Groups 58
4.1.2 Interrater Reliability 59
4.1.3 Group Performance in the Production Tasks 59
4.2 Perception Tasks 63
4.2.1 Group Performance in the Perception Tasks 63
4.3 Vowel Epenthesis and Deletion in Production of Consonant Clusters 68
4.4 Anaptyxis and Prosthesis 72
4.4.1 Anaptyxis and Prosthesis in Vowel Epenthesis 72
4.4.2 Anaptyxis and Prosthesis in the Production and Perception Tasks 75
4.5 General Discussion 83

5 SUMMARY AND CONCLUSION 86
5.1 Summary 86
5.2 Limitations of the Study 87
5.3 Recommendation for Further Research 88

© COPYRIGHT UPM

REFERENCES 89
APPENDICES 103
BIODATA OF STUDENT 114
PUBLICATIONS 115

© COPYRIGHT UPM