



**UNIVERSITI PUTRA MALAYSIA**

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

**PARISA KARIMI BAVANDPOUR**

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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**

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

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**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

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.

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

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

Oleh

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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 menyesuaikan dengan fonologi bahasa ibunda mereka. Untuk menyelidik penghasilan dan persepsi bagi kelompok konsonan awalan di kalangan penutur bahasa Parsi dan kesan ortografi, dua tugas penghasilan dan dua tugas persepsi dengan keadaan yang berbeza telah dijalankan. Tugas pengeluaran pertama adalah pengulangan kata-palsu tanpa perwakilan ortografi dan tugas kedua adalah pembacaan kata-palsu dengan perwakilan ortografi. Keputusan daripada kajian penghasilan ucapan menunjukkan kes-kes yang lebih sedikit berkenaan

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 tugas persepsi, terdapat tugas auditori dengan ketiadaan perwakilan ortografi dan juga tugas 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.

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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:

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## 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.



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