The Impact of First Language Accent on the Acquisition of Second Language Pronunciation: Taking Rhotic as an Example

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Abstract: With the advance of information globalization and economic globalization, it is of great importance for non-native speakers to master English or another widely spoken second language to involve themselves in international communication better. Nonstandard accents in second language pronunciation, assumed to originate from first languages' pronunciation habits, and their influence on communicating with native speakers have triggered foreign speakers' concern accordingly. The paper, through literature review, theoretical analysis, and experiment, explores the impact of first language accent on the pronunciation habit of the second language, specifically on the rhotic-related words in both languages (Chinese and English). The paper finds that speakers' Chinese accent does affect how they say rhotic-related words in English, even when the approach to learning a second language is taken into account. This helps build theories about the link between how people pronounce words in their first language and how they pronounce words in their second language Further research and more generalized experiments are needed to support a universal conclusion.

Keywords: Second Language Acquisition (SLA), Accent, Rhotic and Non-rhotic Pronunciation, English as a Second Language (ESL).

1. Introduction

In the era of globalization, English, as a common language of international communication that enables people to access and make full use of all resources available, has become a vital subject and a useful skill for people of all ages to master [1]. Subsequently, studies related to fields like English Phonetics, English Phonology, English as a Second Language (ESL), and Teaching English to Speakers of Other Languages (TESOL) have thrived globally.

When learning English, the accuracy of pronunciation, amongst all aspects of English acquisition, has been a major concern to many. Over time, research has consistently shown that foreign accents can negatively affect the involvement of L2 (LX) speakers. Researches have proved that a speaker's first language pronunciation habits, or the dialect he or she speaks as mother tongue, influence his or her acquisition of accurate second language pronunciation. In many cases, the second language accent could retain traces of the speaker's accent of his/her first language pronunciation. Kartushina and Frauenfelder posit that the transfer of L1 phonology influences a speaker's L2 pronunciation,

potentially leading to a deficiency in L2 perception [2]. Tu, Grabek, Liss, and Berisha's research in 2018 also shows that the pronunciation patterns originating from the speaker's first language contribute to the formation of accent in the target language (L2), while there exists a belief that accent of a second language is of great importance only when these non-native speakers would face different reception compared to the nativelike speakers, which indicates a different attitude towards L1 Norms in L2 pronunciation acquisition [3-4].

To further understand how first language accent affects second language pronunciation, and discuss opinions about L2 accent in depth, an experiment including six Chinese native speakers with various pronunciation habits has been designed and conducted. Aiming to discover the relationship between their Chinese and English pronunciations, the examinees were divided into 3 different groups: individuals who speak non-rhotic dialects (2 persons), individuals who speak rhotic dialects (2 persons), and 2 Mandarin Chinese speakers. By analyzing these recorded voices, the underlying connection between pronunciation habits of Chinese and rhotic features in English is expected to be roughly revealed, which could be of reference value for future studies on first language accent's influence on acquisition of second language pronunciation.

2. Literature Review

2.1. Connection between L1 accent and L2 pronunciation acquisition

The Contrastive Analysis Hypothesis is a statement that claims the best language teaching materials for language learners are based on a contrast of the linguistic systems of the first language and the target language (L2) [5]. Though later research has proved the hypothesis to be not comprehensive enough, it has inspired in-depth studies in related fields.

Trofimovich, Kennedy, and Ann Foote's research in 2015 finds that a significant proportion of L2 learners' perception errors and foreign accents are specific to their L1, which could be characterized as the construction of Cross-language Perceptual Similarity [6].

According to Esling and Wong, long-term configurations of the vocal tract differ from language to language, which indicates that the transfer of configurations from L1 to L2 might be the cause of accentedness [7].

2.2. Impact of second language accent

Derwing and Munro hold the view that having an accent, even for people who are indistinguishable in other ways from native speakers, could impinge on communication sometimes [8].

LX users could be comparatively vulnerable to linguistic stereotyping, whose status would be regarded as lower with their heavier LX accents, under certain circumstances [9].

Nejjari, Gerritsen, van Hout and Planken, however, argue that in many Lingua Franca Communities, accent varieties are better accepted and would not be viewed as 'a hindrance to successful communication' [10].

The topic of the influence of nonstandard accents has always been controversial, making studies about the connection between L1 and L2 pronunciation habits and broader investigations on second language accent influence necessary.

3. Research and Analysis

The phoneme r in Chinese and English has been selected as the research subject to study the connection between the first language accent and the acquisition of second-language pronunciation. Six Chinese native speakers with different pronunciation habits, as the participants, were recruited and divided into three groups of non-rhotic accents (G1), rhotic accents (G2) and standard Chinese

(Mandarin Chinese, G3) to collect data (Table 1). The examinees were required to read a Chinese passage and an English paragraph containing rhotic-related words that were unfamiliar to all of them (Table 2). Their voices were recorded, and their pronunciations of these rhotic-related words contained in reading materials have been transcribed into pinyin and IPA symbols (Table 3).

Table 1: Basic Information of Participants (Examinees)

Identifier	Name	Dialects of Chinese	Rhotic or Non-rhotic
G1 E1	Cai, Y. M. (Ms.)	Shanghainese	Non-rhotic
G1 E2	Fu, S. Y. (Ms.)	Cantonese	Non-rhotic
G2 E1	Guo, X. F. (Mr.)	Shandong Dialect	Rhotic
G2 E2	Sun, Y. S. (Mr.)	Northeastern Dialect	Rhotic
G3 E1	Wu, D. (Mr.)	Mandarin Chinese	Rhotic
G3 E2	Zhang, S. J. (Ms.)	Mandarin Chinese	Rhotic

Supplementary Information about Table 1:

Participant Ms. Cai (G1 E1), 16 years old, has been studying in the U.S. since she was 5.

Participant Mr. Sun (G2 E2), as a late learner of English, has received only dialect teaching during the Compulsory Education Stage.

Participant Ms. Wu (G3 E1) has studied in the U.K. for a Master's Degree and has received Level 1-B Certificate in Putonghua Shuiping Ceshi (PSC).

Table 2: Reading Materials used to record voices [11]

Language	Content	Reference Translation
Chinese	有个小孩叫小兰,口袋里装着几个小钱,又打醋、又买盐,还买了一个小饭碗。小饭碗真好玩,红花绿叶镶金边,中间还有个小红点。	There is a child named Xiao'lan, who has had some coins in her pocket. She bought vinegar, salt and a rice bowl with the money. The rice bowl looks fun, with red flowers, green leaves and set with gold borders, and a small red dot in the middle.
English	Chaos isn't a pit. Chaos is a ladder. Many who try to climb it fall, and never get to try again. The fall breaks them. And some are given a chance to climb but they refuse. They cling to the realm or the Gods or love. Illusions. Only the ladder is real. The climb is all there is.	

Table 3: Transcriptions of Pronunciation of Targeted Words and Phrases

Words	Transcription of Pronunciation					
	G1 E1	G1 E2	G2 E1	G2 E2	G3 E1	G3 E2
钱 / coins	ji [dʑɪ]	cin [çɪn]	qia [qɪʌ]	qier [qɪər]	qian [qɪŒn]	qian [qɪŒn]
碗 / bowl	oe [œ]	wun [ɯun]	wer [ɯər]	wer [ɯər]	wan [ɯan]	wan [ɯan]
(好)玩 / looks fun	bei [beɪ]	sua [suʌ]	wer [ɯər]	wer [ɯər]	wan [ɯan]	wer [ɯər]
边 / borders	da [da]	bin [bɪn]	bier [bɪəɪ]	bier [bɪər]	bian [bɪɐn]	bian^er [bɪʌnr]
点 / dot	di [dɪ]	dim [dɪm]	dier [dɪəɪ]	dier [dɪər]	dian [dɪɐn]	dian^er [dɪʌnr]
ladder	[lʌdər]	[lædə]	[lædər]	[lædər]	[ledə]~[lədə]	[lædər]
never	[nəvər]	[nevə]	[nevər]	[nævər]	[nevər]	[nevə]
are	[er]	[ɑː]	[ɑːr]	[ɑːr]	[ɑː]	[ɑːr]
there	[ðɪər]	[ðæə]	[ðɪər]	[ðʌɪər]	[ðæə]	[ðæər]

By comparing these rhotic-related words' pronunciations of G1 E2, G2 E1, G2 E2, and G3 E2, it would be convincing to draw the conclusion that for Chinese native speakers who learn English in China, their accents of Chinese usually have undeniable impact on their acquisition of English pronunciation. However, individual differences in participants' educational backgrounds in the experiment ought not to be ignored. For example, examinee G1E1, a non-rhotic Chinese speaker, primarily learned English in the U.S. due to exposure to an American English-speaking environment, which shaped her rhotic pronunciation habit of English. Examinee G3 E1, in contrast, has adjusted her pronunciation habit of both Chinese and English with the promotion of obtaining a PSC certificate for her career as a teacher, and integrating into the linguistic context of Britain.

4. Discussion

In aspect of rhotic, pronunciation habits of Chinese, as the first language of examinees, have been proven to have a certain degree of impact on accents of English, which is their second language. This kind of influence on speakers' second language (e.g., English), together with sentence stress features transferred from Chinese, is usually described as Chinese accent. Kang and Yaw believe that the foreign accent would be a cause of discrimination that LX speakers might face, but Cargile, after conducting investigations, states that nonstandard accented speakers would not always be judged differently by standard accented speakers[9,12]. Hence, more experiments and investigations should be conducted to draw a universal conclusion about the linguistic stereotyping-related topic.

The experiment validates that first language accents do affect the acquisition of second language pronunciation, while the approach of second language acquisition has its reacting influence, based on the analysis of G1 E1 and G3 E1's pronunciation habits of Chinese and English. The connection between first language accent and second language pronunciation appears to be reciprocal, potentially

reinforcing the idea that L1 fluency can serve as a benchmark for predicting L2 utterance fluency [13].

5. Conclusion

To study the influence of first language accent on the pronunciation habits of second language, an experiment including six participants, who are Chinese native speakers with various accents, has been conducted. The data analysis reveals the transfer of rhotic-related features to English, despite the interference from the English acquisition approach. The finding could be a confirmation of L1 accents' impact on L2 pronunciation and could be of reference value for ESL teaching, as well as for SLA and TESOL research in China.

The limitations of this study would be the insufficient sample size and the limited variety of data. The tiny sample size of six examinees is not convincing enough to prove the accuracy of a theory, which could reduce the validity of the research. In addition, the pronouncing habits of participants recruited for the experiment only cover Mandarin and four other accents of Chinese, which is relatively limited to generalize the conclusion of research on the effect of L1 accents' transfer to L2 pronunciation since there are ten categories of accents in Chinese, and some dialects sound different even in adjacent districts. Therefore, experiments with richer samples would be required to get comparatively precise results and draw a more convincing conclusion.

Hopefully, with other similar phoneme-focused experiments as supplementary information, the study of the relationship between first language accent and second language pronunciation, especially on the impact of accents of Chinese on English pronunciation acquisition, would be enriched and developed. Systematical and practical theories in TESOL, as subsequences, could then be proposed, publicized, and applied in teaching activities.

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