

The Effect of L2 on L1: An Analysis of Iranian Speakers' English Knowledge Influence on Their Use of Persian Prepositions

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Introduction

While much work on cross-linguistic influence has focused on the effects of L1 on L2 (e.g., Garcia-Mayo, 2009; Gass & Selinker, 2008; Goad & White, 2009; Saville-Troike, 2012; Snape, 2009), there is limited research into the effects of L2 on L1 (Mahmoud, 2013). This includes studies on the various aspects of prepositions which have mostly focused on how L2 affects the use of L1 prepositions. This gap is addressed in the current study on the influence of Iranian speakers' L2 (English) on their L1 (Persian), in particular, the effects of their knowledge of English prepositional phrases and phrasal verbs on their use of Persian prepositions. The study was motivated by a phenomenon that has emerged among advanced Iranian speakers of English who use deviant forms of prepositions in using Persian. A deviant form of Persian preposition use is unusual and resembles the L2 form. For example, the equivalent of 'on' in the English prepositional phrase 'on purpose', in Persian is 'of'. However, there is a tendency among advanced Iranian speakers of English to replace 'of' with 'on' with the word 'purpose' when speaking Persian. Given this the current study set out to answer the following questions: 1) to what extent does advanced Iranian speakers' knowledge of English affect their use of Persian prepositions?, and 2) do the frequency of use of their L2 (English) and L1 (Persian), and the length of residence in their L2 environment (Malaysia) affect their use of Persian prepositions?

This study is informed by the multicompetence theory (Cook, 1991) which suggests that the different languages a person speaks may be viewed as one connected system in the mind rather than two or more separate systems (Cook, 2012). The multicompetence theory is often referred to in L2 research as well as studies on the effects of L2 on L1 (Atar, 2018; Liu & Ni, 2016; Wang & Wang, 2014).

Methodology

30 Iranians who were considered advanced speakers of English served as participants in the study. At the time of the study, the participants were postgraduates at four universities in Malaysia, namely Universiti Sains Malaysia, University of Malaya, Universiti Putra Malaysia, and Universiti Teknologi Malaysia (USM, UM, UPM, UTM respectively) where the main language of communication for them was English. The level of English competency of the participants ranged from above average to very competent based on their score in the IELTS (International English Language Testing System).

The study adapted the methodology used by Laufer (2003) on the effects of the L2 on the L1 which employed a correctness judgment test and a questionnaire. The correctness judgment test used in the current study consisted of 35 Persian sentences containing prepositions. Of the 35 stimulus items only 18 had correct Persian prepositions. The rest of the stimulus items had wrong or deviant forms of prepositions, i.e. incorrect in terms of use as they follow the L2 structure. The judgement test required participants to respond to each sentence

by noting the prepositions used and stating if they are correctly used. Participants were also required to provide the correct form of a preposition that they considered as a deviant form.

A questionnaire was also employed in the study to obtain information on the Iranian participants' use of their L1 and L2, i.e. Persian and English, and the length of their residence in Malaysia. To gauge the frequency of use of the two languages by the participants in communication, reading, watching television, etc., they were required to select an option as follows:

In a week, I use Persian:

- a. Less than 10 hours
- b. 10- 15 hours
- c. 15- 30 hours
- d. More than 30 hours

In a week, I use English:

- a. Less than 10 hours
- b. 10- 15 hours
- c. 15- 30 hours
- d. More than 30 hours

Results

The results of the correctness judgment test were calculated in terms of the mean (average score), the percentage of the scores, standard deviation, a minimum and a maximum score of correct items. The overall performance of the participants of the study in the correctness judgment test is shown in the Table 1. There were 30 participants and their mean score in terms of correctness judgment test is 20.7. Standard deviation measures the extent to which the score of the members of a group differs from the mean value for the group (Bland & Altman, 1996). The results show that the standard deviation is 8.43 which is more than one third of the mean, suggesting that the scores for the test differ from one another to a large degree.

Table 1. The overall performance of the participants in the correctness judgment test.

	n	Mean	Standard deviation
Participants	30	20.7	8.43

Table 2 below presents the data on the correlation between the participants' use of L1 preposition and the frequency of their L1 and L2 use, as well as the length of their residence in Malaysia. The study used the correlation coefficient to find the correlation between the correctness judgment test score and the three factors. Correlation coefficient (or R) shows the relation between different factors in a study and it ranges from -1.0 to +1.0. The closer R is to +1 or -1, the more closely the two factors are related, but if R is close to 0, there is no relationship between the variables. If R is positive, it means there is a positive relationship between two factors and that as one variable gets larger the other gets larger as well. If R is negative (also referred to as the 'inverse' correlation), it means that as one gets larger, the other gets smaller (often called an "inverse" correlation).

Table 2: Correlation between participants' L1 preposition use and frequency of L1 and L2 use, and length of residence in Malaysia

	R	p
The frequency of use of Persian	0.92	<0.00001
The frequency of use of English	-0.96	<0.00001
Years of residence in Malaysia	-0.95	<0.00001

Values of R shown in Table 2 are either close to +1 or -1, suggesting that the factors are closely related to the participants' ability in identifying and correcting the deviant forms of Persian prepositions. Value of R for the frequency of use of Persian is +0.92, indicating a positive relationship and that the more frequently the participants used Persian, the more successful they were at correcting the deviant forms of L1 prepositions. The frequency of use of English and years of residence in Malaysia however show values that are close to -1 (-0.96 and -0.95 respectively). This indicates a negative relationship between the factors and the participants' ability to identify and correct deviant forms of Persian preposition. In other words, participants who used English more frequently, and have been living in Malaysia for longer periods of time, were less successful in identifying and correcting the deviant forms of L1 prepositions. When the results of an analysis show that the p- value is less than the set value (typically, value of 0.05 is used) the finding can be claimed to be significant and the relationship truly exists (Fenton & Neil, 2012). As evident in Table 2, the p- value for all the factors is significantly less than 0.05, thus confirming that the three factors are related to the participants' use of L1 preposition.

Discussion

The results of the correctness judgment test suggest that the participants were unable to recognize and correct almost 40% of the deviant forms of L1 prepositions. The judgement test required participants to respond to each sentence by noting the prepositions used and stating if they were correctly used. Participants were also required to provide the correct form of preposition when they found a deviant form. The deviant forms of Persian prepositions in the test were traceable to the participants' L2 (English), since they result in a word that resemble L2 in their feature. Figure 1 is an example of a stimulus item in the correctness judgment test in which a deviant form of Persian preposition (underlined) is used.

Figure 1:

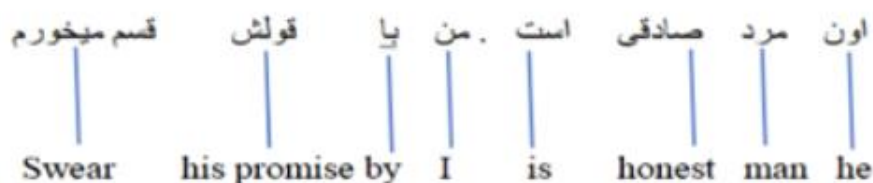
خجالت زده کند	ها	مشتری	جلوی	را	من	که	آمد	دیر	عد	روی	نیکی	
do	embarrass	s	customer	in front of	PTC	me	to	came	late	purpose	on	Niki

Niki came late on purpose to embarrass me in front of the customers.

Note: the correct form in Persian for the above example is 'of purpose'

Figure 2 is another example of an item where the deviant form of a Persian preposition (underlined) is traceable to an English phrasal verb (underlined) is shown.

Figure 2:



He is an honest man. I swear by his word.

Note: the correct form in Persian for the above example is ‘swear on’

The results suggest that Iranian speakers’ L2 features that emerged in their L1 were the prepositional phrases and phrasal verbs. For example, 38% of the participants failed to recognize that the preposition ‘on’ is not used with the word ‘purpose’ in Persian. The correct preposition used with ‘purpose’ in Persian is ‘of’. Their inability to identify the deviant forms of L1 prepositions suggests that their knowledge of the use of L1 prepositions has undergone changes that seem to be in line with their L2, i.e. English. This seems to echo Laufer’s (2003) finding on the effects of L2 on L1 which suggests that when a bilingual is proficient in an L2, the L1 lexical knowledge networks in the mental lexicon experience changes. Cook (2003) also discusses how the change in L1 may eventually start to exhibit characteristics of L2 influence.

Conclusion

The results of the study support previous studies which found that L2 effects are likely to be more significant in speakers who frequently use their L2, use less L1 in everyday communication and with more years of residence in the L2 environment (De Bot, Gommans & Rossing., 1991; Laufer, 2003; Major, 1992; Pavlenko & Jarvis, 2002). These findings do not only provide new knowledge on language transfer in advanced bilinguals but also suggest that there is significant value in research on the effects of L2 on L1. Thus, further research into the influence of L2 on L1 in different linguistic domains such as lexicon, semantics, and morphology is necessary and will contribute new knowledge on bilingualism and L2 influence on L1.

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