Bidirectional Crosslinguistic Influence in Language Learning: Linguistic Aspects and Beyond

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Abstract

The term crosslinguistic influence is used to describe the cognitive process of applying the knowledge of one language to that of another. Dealing with transfer as a fact in the process of language learning, one should not only consider the linguistic differences but also many other factors such as social, cultural, pragmatic, conceptual, etc., which all play crucial roles in the process of language learning. This descriptive study was thus set to find out different kinds of transfer crosslingually. To this end, 70 Iranian junior EFL university students were randomly selected and assigned to two groups of 35 to do translation tasks; in one, they were required to translate a text from L1 to L2 (Persian to English) and in the other group, the participants were asked to translate the same text but this time from L2 to L1 (English to Persian). The data was then analyzed based on a ten-item taxonomy provided by Jarvis and Pavlenko (2008). Close analysis of the data along with relevant statistical analysis revealed that there was a significant difference between the use of transfer in these two tasks. Moreover, the participants not only transferred linguistically but also conceptually.

Key words: Crosslinguistic influence, Kinds of transfer, Interlangauge, Bidirectional transfer

1. Introduction

Second language acquisition is a branch of applied linguistics dealing with the processes learners undergo and obstacles they encounter in learning a second language; therefore, it employs an interdisciplinary approach which contributes to linguistics, sociology, psychology, discourse analysis, conversation analysis, etc. In this regard, the influences of L1 on L2 are evident; for this reason, language transfer and crosslinguistic influence have been closely studied in SLA research for a long time (Gass & Selinker, 2008).

Transfer studies enjoy a long history in second language research with periods of great popularity and also periods of being disregarded. Language transfer, also called crosslinguistic influence, can be simply defined as "the influence of a person's knowledge of one language on that person's knowledge or use of another language" (p. 1). Before, transfer was considered as negative phenomenon; in fact, it was seen as sign of low mental ability or disability in language use which makes language impure. However, global migrations in the twentieth century have provided some understanding of the linguistic processes language learners undergo in learning a language and have encouraged the researchers to investigate and conduct learner language studies including transfer studies (Jarvis & Pavlenko, 2008).

During 1950s and 1960s thanks to the popularity of behaviorism and structuralism in psychology and linguistics respectively, transfer became one of the most significant issues in second language research. It was believed that differences between L1 and L2 surely lead to interference and cause problems for language learners while similarities facilitate the process of language learning. Ringborn (1987, as cited in Gass & Selinker, 2008) likened crosslinguistic and interlinguistic similarities to pegs on which the learners can hang new information because of the already existing knowledge, thereby these similarities facilitate learning. Teachers were thus encouraged to focus on the areas of difficulty created by negative transfer. On the other hand, as time passes crosslinguistic studies lost their popularity and issues like individual differences, kinds of input and interaction became more intriguing for applied linguists and second language researchers. Currently, however, transfer enjoys a period of renewed interest in the field of applied linguistics.

By 1980s, some researchers chose the term *crosslinguistic influence* (henceforth CLI) to be used instead of transfer, since the term transfer is mainly associated with behaviorism (Jarvis & Pavlenko, 2008). In this article, however, transfer and crosslinguistic influence are used interchangeably as a neutral term to refer to the phenomenon in question.

Karimi and Nasajji (2013) reviewed the literature on transfer studies and concluded that L1 transfer is influential in L2 learning as a composing, and compensating strategy which helps the learners originate, develop, compose, and organize their thought and produce it in L2.

Torrijos (2009) studied the impact of CLI in second language learning process. Studying the linguistic rules transferred from L1 to L2 writing, the researcher concluded that besides language mixing, literary skills in L1, social factors, individual differences, etc., L1 transfer plays a crucial role in the process of L2 acquisition which should be of great concern for language teachers.

Larrañaga, Treffers-Daller, Tidball, and Ortega (2011), based on studying learners' oral production of short stories, argued that L1 transfer is not only a great concern in early stages of L2 acquisition but also in later stages, especially if the learners do not find the right path of development in L2 acquisition.

CLI studies are not limited to the study of the impact of L1 in L2 production and comprehension, since it seems too simplistic to assume that it is only L1 which influences L2. Sometimes in the process of second or even foreign language learning it is L2 which influences L1 which gave rise to the studies on bidirectional transfer. In fact, it has been shown that directionality matters in CLI. Jarvis and Pavlenko (2008) classified it into three particular directions as *forward transfer* (from an L1 to an L2), *reverse transfer* (from an L2 to an L1), and *lateral transfer* (from an L2 to an L3) which means in individual's mind two (or more) languages may influence each other simultaneously.

Pavlenko and Jarvis (2002) in their study investigated bidirectional influence of Russian and English bilinguals. They analyzed Russian L1 speakers' oral production of American English L2 and found out that not only their L1 (Russian) influences their L2 production but also their L2 (English) has some influence on their L1 production. Later in 2008, Jarvis and Pavlenko based on their continuous investigations on the phenomenon, confirm their findings and concluded that the more proficient L2 learners become, the more instances of transfer from L2 to L1 occur in their production.

Jarvis (2003) conducted a case study of a Finnish woman who had lived in the US for more than a decade and therefore she achieved a high level of language proficiency. He observed that although she had used her L1 regularly, English caused some errors in her L1 conversations with other Finnish speakers. Hence, it was concluded that her L2 (English) had some semantic and conceptual influence on her L1 (Finnish) performance.

Su (2012) studied bidirectional pragmatic influence in learning a foreign language. The researcher designed the study by collecting data via a discourse completion test in which crosslinguistic influence regarding apology behaviors was under study. Both forward and reverse transfers were observed; however, forward transfer was applied more by the learners than reverse transfer. But in general, the researcher asserted that both L1 and L2 influence each other pragmatically.

Harrison (2010) believed that studies on first language attrition like Isurin (2003, 2007) and Jarvis and Pavlenko's (2002) research on bidirectional transfer not only have made important contributions to the field of second language acquisition but also should be considered as a breakthrough in second language studies.

Reviewing the related literature, the researcher found out that transfer is used by language learners differently, consciously and unconsciously which mostly leads to producing erroneous or incomprehensible sentences. Hence, exploring different ways EFL learners transfer from L1 to L2 and L2 to L1 can be of great significance since it can provide a more comprehensive view of learner language and how transfer is adopted differently, crosslinguistically.

Today, still the terms positive and negative transfer are used by the scholars, of course it does not carry the old stigma. In this study, however, only negative transfer is considered which is defined as crosslinguistic influence resulting in deviations from norms in the target language (Odlin, 1993).

2. Methodology

In the present study, 70 male and female Persian speaking junior students of English Translation aged between19-25 were randomly selected and assigned to two groups of 35 to accomplish the tasks. In designing the tasks, the researcher kept this fact in mind that if learners feel free to produce any structure they wish, they will surely rely on what they know and avoid the unknown or problematic structures or words in their production. In order to prevent such avoidances, translation tasks can be a good solution to urge the learner to produce the desired target form. Therefore, in this study, two translation tasks were designed to be accomplished by the participants. In order to insure the comparability of the tasks, one text was selected for both groups. In one group, the participants were required to translate the text from L1 to L2 (Persian to English) and in the other, from L2 to L1 (English to Persian). Transfer can take place in different language subsystems: morphological, phonological, semantic, syntactic, etc.; therefore, the researcher analyzed the data based on a comprehensive taxonomy provided by Jarvis and Pavlenko (2008) in which crosslinguistic influence is discussed in two main linguistic and conceptual perspectives (Table 1).

Table 1. Jarvis and Pavlenko's (2008) taxonomy of different kinds of crosslinguistic influence

Kind of transfer		Definition
Linguistic transfer		
1	Phonological transfer	The influence of sound system of one language on production or comprehension of sounds in another language
2	Orthographic transfer	The influence of the knowledge of the writing system of one language on writing production of another language
3	Lexical transfer	The influence of word knowledge of one language in production or comprehension of words in another language
4	Semantic transfer	The influence of semantic range of words in one language in production or comprehension of another language
5	Morphological transfer	The influence of word structure of one language on the production or comprehension of word structure in another language
6	Syntactic transfer	Not only word order transfer but also the influence of a whole gamut of one language structure on the production or comprehension of another language
7	Discursive transfer	The influence of the ways thoughts are organized, introduced, or contextualized in one language on the production or comprehension of thought in another language
8	Pragmatic transfer	The influence of the ways speech acts are presented in one language on the ways they are produced or comprehended in another language
9	Sociolinguistic transfer	The influence of the ways social variables and norms presented in one language on the ways they are produced or comprehended in another language
Conceptual transfer		
10	Conceptual transfer	The influence of the ways presenting an item or concept in one language on the ways they are produced or comprehended in another language

First, the use of transfer by participants in both groups were identified and counted based on Jarvis and Pavlenko's (2008) taxonomy of crosslinguistic influence. Chi-square tests were then applied for further analysis of the data. The results are presented in the following section.

3. Results

Analyzing the data, the researcher came across with 1102 instances of transfer in both tasks. Close examination of the data revealed that more instances of CLI were found in translating a text from L1 to L2 (forward transfer) than in L2 to L1 (reverse transfer). In fact 72% (812 cases) were found in the former while only 28% (290 cases) in the latter. This distribution is presented in Figure 1.
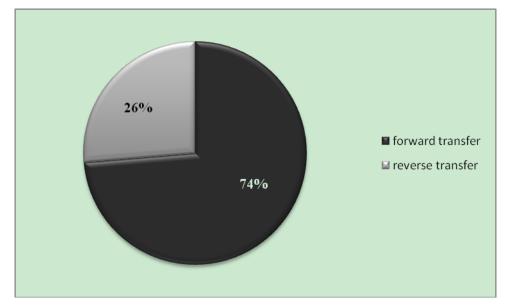
Figure 1. CLI in L1 to L2 and L2 to L1 task

To find out whether the difference between the use of transfer in these two tasks was statistically significant at $p < .05$, a chi square test was performed. Table 2 displays the results.

Table 2. The result of chi square test for the use of transfer in L1 to L2 and L2 to L1 tasks

	L1 to L2 task	L2 to L1task	χ^2	df	Sig.
Total	812	290	247.26	1	.000

As the figures in Table 2 indicate, the difference between the use of different kinds of transfer was statistically significant.

Moreover, the researcher was after finding out the differences between the use of types of transfer in these two different tasks; therefore, the occurrence of each and every kind of transfer in both tasks was identified and counted. Figure 2 summaries the use of transfer in both tasks.
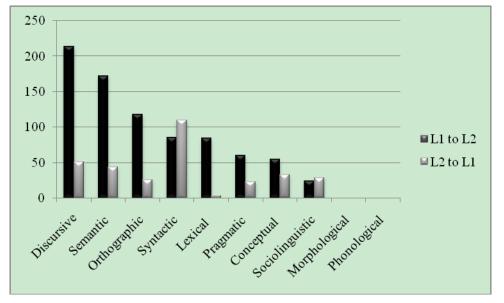
Figure 2. Use of different kinds of transfer in L1 to L2 and L2 to L1 tasks

Since in this study only written performances were concerned, phonological transfer could not be taken into account. The researcher found instances for all the kinds of CLI except morphological transfer. Moreover, all kinds of transfer occurred in L1 to L2 more than L2 to L1 except for syntactic transfer and sociolinguistic transfer.

In order to notice whether these observed differences between different kinds of transfer in these two tasks are statistically significant at $p < .05$, chi- square tests were performed, the result of which are presented in Table 3.

Table 3. Results of chi-square tests for CLI in L1 to L2 and L2 to L1 tasks

		L1 to L2 task	L2 to L1task	χ^2	Df	Sig.
1	Discursive transfer	214	51	100.26	1	.000
2	Semantic transfer	172	44	75.85	1	.000
3	Orthographic transfer	118	26	58.77	1	.000
4	Syntactic transfer	85	110	3.20	1	.073
5	Lexical transfer	84	3	75.41	1	.000
6	Pragmatic transfer	60	23	16.49	1	.000
7	Conceptual transfer	55	33	5.50	1	0.019
8	Sociolinguistic transfer	24	28	0.30	1	0.57
9	Morphological transfer	0	0	-	1	-
10	Phonological transfer	0	0	-	1	-

As shown in Table 3, the differences between the occurrence of different kinds of transfer in two tasks were statistically significant except for sociolinguistic transfer. Figure 3 shows CLI in general in both tasks.
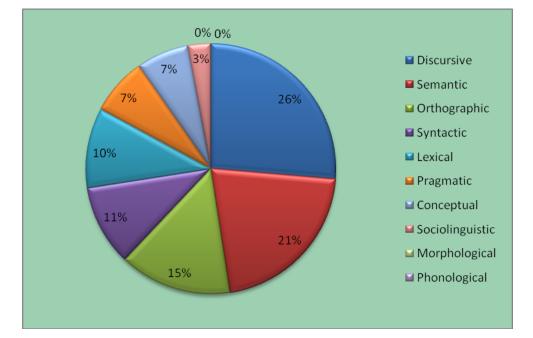
Figure 3. Different kinds of transfer in general

4. Discussion

As mentioned above, in the learners' performances both forward and reverse transfer were found. This is in line with the findings of many other scholars in the field (Brown & Gullberg, 2011; Degroot, Dannenburg & Vanhell, 1994; Fischer, 2003; Hohenstein, Eisenberg & Naigles, 2006; Mennen, 2004; Pavlenko & Jarvis, 2002; Su, 2001; Su, 2010; and Su, 2012, to name only a few).

Reflecting on all the kinds of transfer bidirectionally, the researcher concludes that the participants were not competent enough in their L2 to make a distinction between L1 and L2 rules, and as a result they produced a great amount of forward transfer (812 instances). In fact, in order to keep communication channel open, they tried to transfer from their dominant language. Whereas, the same conclusion cannot be considered as logical for reverse transfer since they are all perfectly competent in their L1. The findings made the researcher to conclude that when trying to produce L1 sentences based on L2 ones, the participants only stuck to the semantic aspect and they did not care the different language systems which results in reverse transfer (290 instances).

Close analysis of the data revealed that there were three main reasons behind adopting transfer:

• Sticking to the semantic aspect of language and translating word by word from one language to another

• Not paying attention to different ways that thoughts are presented in different languages

• Ignoring the differences between two language systems

44.07% of both forward and reverse transfer occurred due to sticking to semantic aspect of language in order to convey the message to another language and translating the text word by

word. Such attempts mostly lead to unconventional use of language. In the existing literature, lots of scholars find this as one of the most frequently adopted ways in order to convey the message by language learners (Hua, Nor & Jaradat, 2012; Sayidina, 2010; Wang, 2009; Liu, 2011, to name a few). By more careful look at the matter, the researcher found out that this word for word translation has led to *semantic transfer, syntactic transfer, and lexical transfer*.

In syntactic transfer, the grammatical structure of one language influences the production of structures used in another language. For example, in the participants' L1 (Persian) determiner 'a' meaning 'one' is not used before nouns as in English; however, the participants did not pay attention to this fact and used the word /yek/ which means 'one' in their performances, i.e., they transferred the L2 grammatical rule to their L1 production just by translating the exact words used in L2. Another noteworthy example is that their L1 is a pro drop language while English as the participants' L2 is a non pro drop one; however, in their performances the participants transferred this structural rule bidirectionally.

With regard to lexical transfer, a very important point was that the participants did not pay attention to different representations of word meanings in two languages, for example, the words *boy, son, and lad* have one equivalent in Persian as /pesær/ which led to some misuse of words by the participants in this study, e.g., they used boy instead of son.

Close examination of the occurrence of semantic transfer also revealed that all of them occurred due to word by word translation and not paying attention to systematic differences between languages.

The second reason which led to the use of transfer was that, the participants did not pay due attention to different ways that thoughts are presented in different languages. Some scholars insist that generally transfer can be explained through transferring concepts and ways thoughts are presented in different languages (e.g., Arran, 2005; Bou Franch, 1998; Heij, Hooglander, Kerling & Velde ,1996; Jarvis, 2011; Pavlenko, 2000; and Von Stutterheim, 2003, 2005- the last is cited in Ellis, 2008). In the present study, the researcher found out that, such inattentions led to the use of *discursive transfer, pragmatic transfer, conceptual transfer, and sociolinguistic transfer* which comprises 43.18% of all the kinds of transfer used in this study.

As presented in Table 3, discursive transfer was the most frequently occurred one. Extensive use of discursive transfer, especially from L1 to L2 (214 cases), indicates that the participants are not discoursally competent enough to use their L2 appropriately and as L2 speakers do, hence they mostly transfer discursive rules from L1 to L2. For example, they did not know where to use *faint, pass out, collapse* or *lose consciousness*; in fact, these terms were used interchangeably by the participants which indicates that not only they are not aware of the slight differences in use of the words, but also they do not know how to use them appropriately in the context of L2.

Pragmatic transfer mainly occurred in opening and closing of the letter which was a part of the task; in fact, they did not know how to start or end a letter. There are some fundamental differences between openings and closings of the letters in Persian and English; however, the

participants did not pay attention to this fact and consequently a great number of forward pragmatic transfer was observed.

Conceptual transfer is another kind of transfer which indicates that the participants did not consider different ways of concept representations in different languages. For example, the word *condolence* and its Persian counterpart */taslicæt/* refer to the sympathy you express when someone has died. However, this concept is presented differently in these two languages which is not considered by the participants.

In addition to linguistic factors which influence the realization of language, social factors are also of great significance. Sociolinguistic transfer shows that learners do not consider sociolinguistic factors in representing thoughts into words. As observed in the tasks performed by the participants, they didn't pay attention to cultural norms and the ways words are used. For example, in English the word "widow" refers to the woman whose husband is dead, but in Persian its counterpart, /bive/, carries a different cultural meaning, and therefore it is not used just the same as in English. In the tasks, however, the participants did not pay attention to this fact and used the word /bive/ while they had to say /khanom/ which means "a woman" and in L1 to L2 they also made the same mistake and instead of using "widow" they used "a woman".

The other reason behind adopting transfer was ignoring the differences between language systems which lead to the use of orthographic transfer, morphological transfer, and phonological transfer.

Since in this study only written performances were considered, phonological transfer could not be taken into account; moreover, no instance of morphological transfer was found. Hence orthographic transfer is the only one to be discussed with this regard. There are huge differences between the use of orthographic transfer in two tasks; in fact, the participants transferred orthographic rules of their L1 to L2 far more than L2 to L1. Most of these writing rules were related to writing the date, which is completely different in English and Persian; moreover, in some cases, they did not use capitalization at the beginning of the sentences or the initials of proper nouns. Since there is no such rules of capitalization in their L1, they did not apply this rule in L2 writing too.

Studying the matter of transfer has always played a crucial role in second language research. The findings of the present study provide a comprehensive view of leaner language and how language learners adopt different kinds of transfer in their written communication which can be of great significance for language teachers, material designers, and translator trainers.

5. Conclusion

This descriptive study was set to find out crosslinguistic influence in written productions of Iranian EFL learners. The findings of the study revealed that this crosslinguistic influence is bidirectional, i.e., both from L1 to L2 and from L2 to L1. Based on the statistical analysis mentioned above, the researcher found a significant difference between the use of different kinds of transfer in L1 to L2 and L2 to L1 tasks; In fact, although bidirectionality was observed, forward transfer was occurred more than reverse transfer in general.

The findings of the present study can be of great significance for language teachers, material designers, and translator trainers. They can consider different kinds of crosslinguistic influence in every step of language teaching, evaluation, and material development.

For further research, the researchers are recommended to consider task variability, language proficiency, context of language learning, age, and gender as variables in their studies. This way a more comprehensive view to the matter of crosslinguitic influence will be provided.

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