

An Overview of Cross-linguistic Influence in Language Learning

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Abstract

This review paper begins with a short discussion on the relationship between first and second language. Subsequently, it presents a set of models and hypotheses as the main theoretical frameworks which are commonly drawn on to support, describe and give account of the related studies in this field. Then, it elaborates on the issue of cross-linguistic influence or language transfer by presenting its historical overview. It then continues by discussing its terminologies and classifications. It also gives a brief account of the reasons for the occurrence of language transfer. In addition, different approaches to transfer studies are concisely addressed. Moreover, it reports on the empirical transfer studies of different types including oral and written transfer and various levels such as syntactical, lexical, and conceptual. Finally, concluding the facilitative effect of the cross language transfer, it calls for more attention for further research and practical considerations in designing language learning materials.

Keywords: cross-linguistic influence, language transfer, L1-L2 relationship

L1 – L2 RELATIONSHIP

The knowledge of first language and its impact on second language acquisition is of special importance in language learning since it engaged researchers for the last few decades. Today, most scholars and educators have been persuaded that language learners while trying to learn a new language utilize their knowledge of other languages (Schmitt, 2002, as cited in Behjat & Sadighi, 2010). For instance, Nation (2003) introduced some ways through which L1 may facilitate the acquisition of L2 in all strands of a well-balanced course, including meaning focused input and output (e.g. discussing a task in L1 before conducting it out in L2 writing), language focused learning (e.g. L1 translation in combination with the use of word cards for initial learning of vocabulary), and fluency development (e.g. use of L1 in recalling L1 stories or information or getting familiar with L2 input).

Studies on the relationship between first and second language learning initiated independently from first and second language teachers in the 80s and early 90s (Sparks et al., 2009). However, during the 50s and 60s, language teachers had designed tests that included specific first language measures to evaluate aptitude for learning a second language (Sparks et al., 2009). It supposed to be related L1 measures such as tests of

vocabulary, sound-symbol relationships, grammatical concepts, and verbal memory (Sparks et al., 2009).

Contemporary research acknowledges that learners draw on their L1 during learning an L2. This occurs because of an interaction on an individual level, between the L2, the L1, and cognitive processes within the acquisition of the L2 (Lightbown & Spada, 2006, as cited in Williams, 2010, p. 8).

THEORETICAL FRAMEWORKS

Linguistic Interdependence Hypothesis (LIH), Linguistic Coding Differences Hypothesis (LCDH), and Linguistic Threshold Hypothesis (LTH) are amongst the main theories, which are commonly drawn on to describe and give account of the relationship between first and second language. However, there are some more models and theories that each have partly contributed to the accumulation of evidence to justify the relationship between L1 and L2. They include the Perceptual Assimilation Model (PSM), Speech Learning Model (SLM), theory of Feature-Geometry, Contrastive Analysis Hypothesis (CA), Critical Period Hypothesis (CPH), theory of Markedness, Linguistic Relativity Hypothesis (LRH), Conceptual Transfer Hypothesis (CTH), Structural Overlap Hypothesis, and Language Dominance Hypothesis.

Cummins in the L2 bilingual field of study proposed his linguistic interdependence hypothesis (LIH) in 1979, which was then properly articulated in Cummins (1981) as follows:

To the extent that instruction in L_x is effective in promoting proficiency in L_x, transfer of this proficiency to L_y will occur provided there is adequate exposure to L_y (either in school or in environment) and adequate motivation to learn L_y. (p. 29)

The theoretical perspectives arising from the interdependence hypothesis indicate that familiarity with either first or second language can facilitate progression of the proficiency underlying the two languages, provided sufficient motivation and exposure to both either in formal or informal settings (Cummins, 2005). However, according to Arefi (1997), this facilitating effect is more prominent in literacy related skills that involve concept knowledge generally acquired in school settings. Different languages are distinct from each other since they have different surface aspects such as vocabulary, pronunciation, and grammar, but there is an underlying academic / cognitive proficiency, that is shared or interdependent across languages. This “common underlying proficiency” makes it feasible for the academic / cognitive or literacy related skills to be transferred across languages (Cummins, 1984). Strickland and Chelma (2018), in their research on cross-language regularities, confirmed the presence of core knowledge mechanisms and representations across languages too. It is also worth noting that the Separate Underlying Proficiency (SUP) Model as an alternative proposal to the Interdependence Hypothesis assumes that “if there is no transfer across languages and no underlying proficiency that links L1 and L2 (and L3 etc.), then language representations are stored separately in an individual’s cognitive operating system” (Cummins, 2005). However, as Cummins (2005) mentioned, the empirical evidence strongly refuted the SUP model through demonstrating significant transfer of conceptual knowledge and skills across languages.

In addition, August (2006, as cited in Behjat & Sadighi, 2010) referred to two theoretical limitations of this hypothesis. Firstly, it does not determine the cognitive mechanisms for transfer and has not dealt with the way in which transfer could be at variance for individuals at different levels of proficiency and development. Secondly, it seems more appropriate for children rather than adults.

According to Linguistic Coding Differences Hypothesis (LCDH; Sparks, 1995; Sparks & Ganschow, 1991, 1993, 1995, as cited in Sparks et al., 2009), “both L1 and L2 acquisition are based upon basic language learning mechanisms that are similar to both languages.” Studies conducted by these researchers displayed that second language students of poor abilities are more likely to have typical problems in definite features of their first language (e.g., the orthographic [sound/symbol] / phonological system), while more proficient L2 learners (in high school and college) appeared to have stronger L1 skills, especially phonological processing skills.(Sparks et al., 2009).

One more important hypothesis which is usually drawn on to describe L1-L2 relationship, is the Linguistic Threshold Hypothesis (LTH) by Cummins (1979). In this theory, he suggests that “there may be threshold levels of linguistic competence which a bilingual child must attain both in order to avoid cognitive disadvantages and allow the potentially beneficial aspects of bilingualism to influence his cognitive and academic functioning.” He differentiates between two thresholds, the higher and the lower threshold level of bilingual competence. The attainment of lower level competence assumed to be sufficient to avoid any cognitive effects from learning an L2, while the higher threshold level of bilingual competence seems necessary to result in accelerated cognitive growth. Two implications of this hypothesis are that on the one hand, the first threshold level in L2 development should be reached in order to avoid negative transfer from L1 to L2, and on the other hand, for positive transfer to occur the second threshold level in L2 is needed to be attained. Obviously, it can be concluded that based on LTH there are some differences in cross language transfer between different levels of language proficiency. Other researchers (e.g. Behjat & Sadighi, 2010; Ito, 2009) also confirmed these implications. For instance, Ito (2009) investigated threshold level to transfer of writing skills among Japanese EFL learners. Ito (2009) found that Japanese EFL students at intermediate and advanced proficiency levels may be cable of transferring more L1 writing skills to L2 than students with lower command of L2. Hence, since direct transfer of L1 writing skills (as well as reading skills) to L2 occurs only when a sufficient control over a target language is acquired, low L2 proficiency creates a short-circuit effect on the relationship between L1 and L2 writing skills. However, according to August (2006, as cited in Behjat & Sadighi, 2010) the limitations of this hypothesis are that it does not provide empirical evidence to demonstrate what exactly the threshold levels of L2 proficiency might be, and that it might operate differently for children and adults.

Another model which is used to explain the functioning of L1 in L2 is the Perceptual Assimilation Model (PSM). This model was proposed to investigate the performance of learner’s L1 phonological system in the perception of sounds of other languages (Best, 1994, as cited in Sinha, Banerjee, Sinha & Shastri, 2009).

Speech Learning Model (SLM), which concentrates on the L2 segment acquisition, aims at finding out the way in which speech perception influences phonological acquisition through differentiating the two types of sounds: “new” (not identified by any L1 sound) and “similar” (identified by L2 sounds) (Fledge, 1995, as cited in Sinha et al., 2009). It proposes that phonetic systems in production and perception are likely to be adaptive during the lifetime, and reorganize in reaction to the sounds in the L2 inputs. This intriguing process is called “equivalence classification” that hinders the construction of new phonetic categories for analogous sounds (Sinha et al., 2009)

The Theory of Feature-Geometry (Ritchie, 1968; Michaelis, 1973, as cited in Sinha et al., 2009) states that the features used in grammar are different in regarding their importance level, and features that are drawn on repeatedly in the language’s phonology will be more outstanding than the less recurrently used ones. Hence, features more salient in L1 system will significantly impacts learner’s perception of new L2 sounds (Hancin & Bhatt, 1994, as cited in Sinha et al., 2009).

The Contrastive Analysis Hypothesis (CAH) explains that the structures and shapes of an individual’s L1 differs from those of the L2, which might cause errors in reading, writing, and speaking (Dulay et al., 1982, as cited in Sinha et al.). In other words, it mainly claims that structurally dissimilar aspects of the two languages could produce interferences or errors (Wang, 2007).

According to Critical Period Hypothesis (CPH) by Lennenberg (1967, as cited in Sinha et al., 2009) so as to have appropriate language fluency, it needs to be acquired or learned before the beginning of puberty. One of the implications resulting from this hypothesis, according to Sinha et al. (2009), is that comparative inability of little kids to transfer and remember vocabulary regarding their L1 is a privilege for them in learning an L2 without interference from their L1.

Theory of Markedness (Eckman, Moravcsik, & Wirth, 1986; Seliger, 1991, as cited in Isurin, 2005) focuses on correlations, i.e. pairs of “marked” (less distributed) and “unmarked” (more distributed) structural elements in the language. This theory suggests that those linguistic occurrences in the L2, which are more marked than the corresponding phenomena in the L1, will be more demanding to be learned (Isurin, 2005).

Linguistic Relativity Hypothesis (LRH) refers to “influence of language on thought that affect either comprehension or production” (Odlin, 2005). Obviously, such influence could affect comprehension or production in an L2 (or an Ln); in addition, the influence might be where the L1 is influenced by the L2.

Conceptual Transfer Hypothesis (CTH) refers to those cases of linguistic relativity involving, most typically, a second language (Odlin, 2005), but in contrary to LRH does not claim that all conceptual dissimilarities between speakers of various languages are essentially due to the grammars of those languages (Bylund & Jarvis, 2011). In fact, CTH argues that speakers of different languages have almost various patterns of conceptual categorization and construal, which, in the case of second language learners and bilinguals, could be transferred across languages (Bylund & Jarvis, 2011). In other words,

conceptual distinctions and patterns of conceptualization of a previously learned language can also affect the use of another language. For instance, bilinguals' choice of words for referring to actions and objects, in addition to their choice of discursive and syntactic for referring to situations and events, mostly indicate methods of expressing meaning and purposes which are specific to particular language backgrounds (Jarvis, 2011).

The Structural Overlap Hypothesis (Müller, 1998; Hulk and Müller, 2000; Müller and Hulk, 2001, as cited in Foroodi-Nejad & Paradis, 2009) asserts that influence from language Y to language X could happen if language X has two options for a target structure, but language Y has only one option. Consequently, language Y would influence language X, and not the other way around.

Another hypothesis, which is also developed to determine the direction of language transfer, is the Dominance Hypothesis. This hypothesis, as Foroodi-Nejad and Paradis (2009) put it, proposes that influence would occur from the "dominant" to the "non-dominant" language, but not the other way around. That is, the language that the learner speaks with greater proficiency is responsible for the patterns or structures he or she favors.

In conclusion, although some of the abovementioned theories and models play more prominent roles in providing the theoretical foundation for investigation of the relationship between languages (esp. LIH), all needs to be considered together to better provide us with a full picture of the complex nature of such relationships.

LANGUAGE TRANSFER / CROSS-LINGUISTIC INFLUENCE

Historical overview

The concept of language transfer originated from the Contrastive Analysis (CA) hypothesis that was widely accepted in the 1950s and 1960s. According to Koda (1997, as cited in Chapeton, 2008), the CA hypothesis, which was genuinely has its basis in behaviorism, states that the main obstacle to L2 acquisition originated from interference factors generated by the L1 system, being the L1 considered as the major source of confusion. However, Eliss (1986, as cited in Dweik & Abu Al Hommos, 2007) sees the most important liability of the CA hypothesis in its claim that L2 learning is fundamentally a process of overcoming disparities in the two language systems.

L1-L2 transfer was first introduced by Selinker (1969, as cited in Liu, 2001), and other follow-up studies provided either more evidences of transfer or its role in understanding the learner's error in particular and interlanguage¹ as a whole. According to Corder (1981), the source of data for transfer studies lies in the learners' production or utterances that are the observed output, which results from the L2 learners' attempted production of a second language norm. Hence, L2 studies of the 70s and early 80s focused on investigating whether, under what conditions, and in what way previous linguistic

¹ Interlanguage (IL) refers to "a separate linguistic system based on the observable output which results from a [second language] learners' attempted production of a Target Language (TL) norm" (Selinker, 1972).

experience had an impact on the acquisition process (Zobl, 1993, as cited in Chapeton, 2008) as was the major concern of Interlanguage studies, that is investigating of transferability rather than transfer (Wang, 2007). In the late eighties, researchers became interested in the processes underlying L2 learning and its relation to the L1. Ringbom (1987) asserted that the L2 learners were continually trying to make their task easier through drawing on prior linguistic knowledge, including what they already learned about the second language and of what they learned about the first language. It was obvious that the L2 learner does not need to go to the drawing board to be able to relate a new item or task in the L2, to existing previous linguistic knowledge from L1 or possible other languages. Ringbom (1987) proposed that the resemblances between the languages might be the best foundation for analysis. He reported that the L1 influence could be seen in different manifestations based mainly on how the L2 learner perceived similarities and how those similarities could affect the learning process. Odlin (1989, p.27) also mentioned that the learners' conscious or unconscious judgment, that something in the L1 and the L2 are similar, is a determining factor in causing such influences. In contrast, Kellerman (1983, as cited in Chapeton, 2008) argued that there are some conditions on first language influence that go beyond sheer similarity and differences of the languages under study, thus, engaging the learner as an active participant in the process of learning. He suggested that the second language learner can decide about what could and could not be transferred. In fact, the less the learners know about the L2, the more they need to draw upon any other previous linguistic knowledge they possess. This preceding knowledge might include other previously learned foreign languages as well and would be more evident at the beginning stages of learning (Chapeton, 2008).

In conclusion, research evidence to date indicates that there is a relationship between previously learned language(s) and the target language, and that some aspects of language skills are transferable across these languages.

Terminology and Classification

Scholars have perennially used the terms *language transfer* and *cross-linguistic influence* interchangeably, a practice which supposes that some kind of influence is necessary for the phenomenon of transfer (Odlin, 2005). However sometimes, other terms such as *linguistic interference*, *mother tongue influence*, *native language influence*, and *language mixing* are used to refer to the same phenomenon (Odlin, 1998, as cited in Behjat & Sadighi, 2010). The concept of transfer now benefits "renewed acceptance as a crucial component in modern L2 learning theories" (James, 1998, as cited in Crompton, 2011). However, the term transfer is still ambiguous and has been defined by various authors from different perspectives. Hence, a comprehensive definition of this concept calls for studying it from various points of view, and defining the related terms.

Language Transfer

Today, language transfer is seen as a central area of study to the whole discipline of second

language acquisition (Gass and Selinker, 1993, as cited in Chapeton, 2008). The word transfer, originated from the Latin word “transferre,” means “to carry,” “to bear” or “to print, impress or otherwise copy (as a drawing or engraved design) from one surface to another” (Webster’s Third New World International Dictionary, 1986, as cited in Liu, 2001). Transfer is also defined as “the carry-over or generalization of learned responses from one type of situation to another,” especially “the application in one field of study or effort of knowledge, skill, power, or ability acquired in another” (Webster’s Third New World International Dictionary, 1986, as cited in Liu, 2001). This meaning from the dictionary indicates that transfer is a neutral word in origin and nature (Liu, 2001). Neuser (2017) defined transfer as “the influence of one language on another” due to the existence of more than one language in the mind.

Selinker (1992, as cited in Behjat & Sadighi, 2010) views transfer as a cover term for a few behaviors which overlap with input from the target language and with universal features of human language.

Language Transfer from Various Points of View

Reviewing the literature on the concept of transfer revealed that it has been defined and classified from different perspectives such as linguistics, cognitive, metacognitive, psycholinguistics, pragmatics, and so forth.

According to Arabski (2006) language transfer as a linguistic concept has always been regarded as a phenomenon, which arises in language learning contexts. By linguistic transfer, we signify what the learners carry over to or generalize in their knowledge about their native language to assist them with learning to use a target language (Liu, 2001). In this sense, transfer does not indicate whether what is carried over is bad or good but is essentially a neutral term (Liu, 2001). However, Linguistics, in general, deals with the static structures within a language system. Regarding the target language grammatical rules, a number of native language-based linguistic transfers concur with linguistic errors (Liu, 2001). Hence, Arabski (2006) presented a classification which depicts the widespread behaviorist views of the term as the subconscious, uncontrolled, and automatic utilization of the learner’s previous behaviors in an effort to generate new responses in the second language. First, positive transfer, which results in correct performance as the new behavior being learned is the same as the old, habitual behavior. Secondly, negative transfer, which in contrast, results in error due to the influence of old behavior that is different from the new one. In other words, those native language-based applications that do not result in linguistic errors are regarded as positive transfer, while those that cause errors, are named as negative transfer. Therefore, while learning a second language, a positive linguistic transfer seldom causes any practical problem, but a negative linguistic transfer must be avoided since it is erroneous (Liu, 2001).

In contrary to the automatic view, and in line with the cognitive paradigm of the late 70s, transfer was distinguished as a decision making / problem-solving procedure, or strategy, using first language knowledge so as to solve a learning or communication difficulty in second language (Sharwood Smith, 1977; Kellerman, 1979; Jordens, 1977, as cited in Chapeton, 2008). Transfer as a communication strategy, is defined as “the use of

items from a second language, typically the mother tongue, particularly syntactic and lexical, to make good the deficiencies of the interlanguage" (Corder, 1992, p. 26, as cited in Paramasivam, 2009). Tarone (1983, p. 62-63, as cited in Paramasivam, 2009) names this strategy as "borrowing" which is of two types. First, "literal translation" that the process involves the learner translating word for word from the L1 to convey his meaning. Second, "language switch" that is using the L1 to express his intended meaning without translation. Furthermore, it is worth mentioning that the mother tongue is not the only source of transfer. Any other previously learned languages may also be tapped into as a source to supplement learners' interlanguage. For instance, Faerch and Kasper (1984, p. 49; as cited in Paramasivam, 2009) refer to L1/L3 transfer as a communicative strategy through which the learners taps into the properties of their L1, L2, or L3 to express their messages. Also, Parma (2017), based on the three major models of third language transfer (the cumulative enhancement model, the second language status factor, and typological proximity model), studied the role of first and second language in third language learning comprehension and production. The most revolutionary linguistic theory of the last few decades within the cognitive framework was that of universal grammar introduced by Chomsky (1965, as cited in Isurin, 2005). Based on this theory, cross-linguistic influence must be predetermined by certain innate constraints existing in any natural language acquisition. Chomsky suggested that the learner must take a very restricted input in second language and generate a clean grammar of the target language. Therefore, the final product would be the language with the lowest possible redundancies.

Van Patten (1992, as cited in Behjat & Sadighi, 2010) also mentioned that transfer happens when a transitional stage is parallel to a structure in the L1. If transfer is triggered, the consequence is either more structures in that stage that resembles L1 structures, or a long stage of development. This kind of transfer is, thus, called a psycholinguistic transfer because it has an effect on the way through which language is internalized or structured throughout development. Concerning psycholinguistic transfer, it is commonly postulated that the influence of the L1 is restricted, since transfer cannot violate the natural properties of acquisition. He suggested that rather highlighting dissimilarities between the L1 and L2, we need to focus on the degree of resemblances between them. In other words, when transfer takes place in the process by which language is internalized, it happens due to likenesses rather than dissimilarities.

On the other hand, as Liu (2001) put it, pragmatics are concerned with investigating how native language-based transfers affect the learners in comprehending and performing a speech act in a target language and whether such transfers are fitting in the situation. Since pragmatics aims at examining the appropriateness of speech that is free from right-wrong linguistic grammar, from grammatical point of view, everything under pragmatic investigation is correct.

However, Odlin (1989) claimed that transfer is neither a consequence of habit formation, nor simply a falling back on the L1. He sees transfer as "the influence resulting from similarities and differences between the target language and any other languages that has been previously (and perhaps imperfectly) acquired" (p. 27). This definition thus

indicates that transfer can occur at any levels, strategic, linguistic, discourse, and pragmatic (Liu, 2001). Odlin then proposed a classification of outcomes in order to shed some light on the various influences that the similarities and differences of the languages can create. His categorization consists of three types. Firstly, positive transfer, that is the facilitating effect which takes place when the similarities between the native language and the target language (or languages) support learning. For example, similarities in syntactic structures are supposed to make the grammar learning easier as well as similarities in vocabulary, which can make reading comprehension faster. Secondly, negative transfer, which entails deviations from norms in the target language, encompasses subjects such as avoidance or underproduction, overproduction, production errors in speech and writing, and misinterpretation as first language structures can affect the interpretation of second language expressions causing learners to infer something very dissimilar to what speakers of the target language would infer. Misinterpretation may manifest, at the writing level, when first and second language word-order patterns are different. Thirdly, Odlin (1989) suggested another transfer type which focuses on the length of time needed to achieve proficiency. Scaffolding his argument, he presented a list that displayed the maximum lengths of intensive language courses, being Japanese, Greek, Russian, Chinese, and Arabic among the typical languages which necessitate more time for native English speakers to reach a high command of language. This category entails the concept of *language distance* which refers to the amount of similarity between two languages.

According to Ringbom (2006), there are five types of cross language similarity relations which their roles vary both quantitatively and qualitatively depending on the way they are interlinked. These similarity relations refer to form and meaning; items and systems; first versus second language transfer in third language learning; perceived or assumed similarity and objective similarity; and modes of comprehension and production. It is also worth mentioning that the last type is closely related to the notion of psychotypology, which was first addressed by Kellerman (1983, as cited in Chapeton, 2008). He proposed two interacting factors involved in language transfer that are the learner's perception of the nature of the L2, and the degree of markedness of an L1 structure. Kellerman defines psychotypology as the perception of the L2 and the distance from the L1 (p.114). Kellerman sees transferability as a relative concept which depends on the perceived distance between the first and second language and the structural organization of the learner's first language. Moreover, Cummins (2005) mentioned that in languages that are originated from similar source languages (e.g. Latin and Greek in the case of Romance languages), transfer includes both linguistic and conceptual elements will be transferred, while in the case of dissimilar languages, primarily, conceptual and cognitive elements (e.g. learning strategies) will be transferred.

Cross-linguistic Influence (CLI)

Corder (1993) raised doubt against the term *transfer* and suggested *mother tongue influence* as a neutral and broader term to refer to what has generally been called transfer. He argued that the original theory of transfer considers an extremely limited position for the native language and that it did not encompass the phenomena comprehensively.

Gundel and Tarone (1993) concurred by stating that “Despite the obviously important role of the first language in second language acquisition, the term ‘language transfer’ is misleading since it implies a simple transfer of surface ‘patterns’, thus obscuring the complex interaction between the first and the second language systems and language universals” (p. 87).

Kellerman and Sharwood (1986, as cited in Chapeton, 2008) proposed a theory-neutral term to refer to this noteworthy facet of L2 acquisition and named it as *crosslinguistic influence* (CLI) which is defined as “the interplay between earlier and later acquired languages.” They see CLI as a particular domain of investigation in both SLA and EFL contexts (in naturalistic as well as tutored situations) paying special attention to the theoretical problems related with identifying and explaining the way in which the native and target languages interact in L2 acquisition and performance. This umbrella term subsumes phenomena such as transfer, interference, avoidance, borrowing, and L2 related aspects. In this sense, the term cross-linguistic influence can be employed to label the processes involved despite the direction of the influence (L1 ↔ L2). However, cross-linguistic influence can have an effect on not only the performance in an L2, but also results in weakening of linguistic skills in a native language when L2 speakers lose contact with their language community or have a limited exposure to the native language because of extensive exposure to the L2. Therefore, the studies on cross-linguistic influence has recently extended to the field of enquiry known variously as *language forgetting*, *language loss*, or *language attrition* (Seliger & Vago, 1991, as cited in Isurin, 2005).

Finally, closing the section on terminology and classification, it is worth mentioning that although there is no consensus regarding the definition, naming, and the concrete effects of the phenomenon, the occurrence of some kind of language transfer between certain aspects of learner’s L1 and L2 (and Ln) is undeniable.

REASONS FOR THE OCCURRENCE OF TRANSFER

There are the several factors that are considered responsible for the appearance of language transfer. Grabrys-Barker (2006, as cited in Chapeton, 2008) has illustrated some of these factors. For instance, as he mentioned, transfer occurs when the target language element has not been acquired due to lack of input; when it has been internalized but not activated in performance; and when the patterns acquired are not complete / adequate and do not justify all required applications. Foroodi-Nejad and Paradis (2009) refers to Structural Overlap Hypothesis as the sources of language transfer which has already been defined in the section on *theoretical frameworks*. Moreover, according to Chapeton (2008) other determining factors studied in multilingual or third language acquisition research (e.g. Cenoz, 2001; Ortega, 2008) such as perceived and real language distance, residency, L2 status, and the impacts they have on the choice of the source language in cross-linguistic influence which still call for more investigation. Neuser (2017), in her study on source language of lexical transfer, referring to proficiency, item-specific transferability, exposure, psychotypology, and the L2 status as factors, found in previous studies, that are involved in determining source language of

cross-linguistic influence, confirmed the significant effect of the first three ones but found inconsistent patterns for psychotypology. She also showed a strong L1 status effect instead of an L2 one.

At last, however, it is also worth noting that there are some constraints on the transferability of items. Ellis (1994, as cited in Wang, 2007) identified a couple of factors assumed to be responsible for such constraints, including the sociolinguistic factors involving language level, prototypicality, linguistic markedness, language distance (e.g., linguistic differences), and the learner's psychotypology, and developmental factors involving universal principles or tendencies in language acquisition.

APPROACHES TO TRANSFER STUDIES

Although Grotjahn (1983, as cited in Liu, 2001) suggested the use of quantitative method in data collection for transfer studies, according to Liu (2001), three chief methods are frequently employed in transfer studies: cross-sectional, longitudinal, and theoretical.

The cross-sectional method compares and contrasts how samples of second language learners at various levels of proficiency comprehend and produce linguistic action.

A longitudinal method examines the way in which individuals or groups of learners from the early stages onward rely on a few prepackaged or prefabricated routines which are then analyzed into rules and elements that become accessible for productive use.

Different from either cross-sectional or longitudinal methods, theoretical accounts benefits cognitive theory and research. Compared with the other aforementioned methods, theoretical accounts of pragmatic development are even more scares. So far, there have been two different, however compatible, frameworks. One of them is Schmidt's (1993, as cited in Liu, 2001) theory of the role of consciousness in pragmatic development, and the other one proposed by Bialystok (1993, as cited in Liu, 2001) examines learners' inter-language pragmatic knowledge development regarding language use and proficiency. It appears that the two methods, although different from one another, congregate in that they both investigate different stages of pragmatic learning: Schmidt examines the conditions of initial intake, while Bialystok is more interested in how acquired pragmatic information represented and restructured.

EMPIRICAL TRANSFER STUDIES

Oral and Written Transfer Studies

The field of language transfer has several lines of research as manifested in both oral and written transfer studies.

Empirical studies to categorize the L1 effect on the learner's language were commenced by Newser (1971) who investigated native language influences in the speech of some immigrant workers in America. The relationship between transfer and speech production was reported in earlier research (Flege & Davidian, 1977; Krashen & Scarcella, 1978, as cited in Liu, 2001). More recently for instance, Williams (2010), employing a socio-cultural framework explored the L1 Use of Adult Intermediate Korean EFL Learners during some collaborative oral pair-work tasks. He posited that the L1 results in several

various cognitive processes during the interaction, which facilitate L2 learning. However, he suggested proper guidance from the teacher as necessary for students not to overuse their L1 tool at the expense of challenging themselves to produce the L2. In another study, Dean and Valdes Kroff (2017) researched how orthographic-phonological mappings in bilinguals promote interference during spoken language and concluded that learning a second language may result in consequences on the dominant L1. They have demonstrated that native speakers of Spanish with a functional level of English are influenced by the less-dominant L2 in spoken language processing.

Crompton (2011) also, having demonstrated the role of L1 influence in making problem for advanced Arabic EFL learners in using articles in their written works, refers to the necessity of appropriate instruction regarding L1 transfer specifically in article system. And this need, according to Ellis (2006b, p.186, as cited in Crompton, 2011) arises from the form-function mappings of L1 which inhibits or blocks learners perceiving those of L2, i.e. they fail to notice differences, and his conclusion is that without instruction fossilization is inevitable. Connor and McCagg (1983) studied functioning of transfer in the learner's compositions and Biskup (1992) examined transfers in the learner's use of collocations. Dweik and Abu Al Hommos (2007) demonstrated the positive transfer of writing skills of intermediate Arabic-English bilinguals via analyzing their essays in the two languages. Likewise, Alsamadani (2010) studied the relationship between EFL learners' writing proficiency in Arabic as their first language English as their second language. He investigated the university level learners' argumentative essays in both languages and found a significant correlation between them. On the other hand, Carson et al. (1990) studied Japanese and Chinese ESL students and found merely weak to moderate correlations between first and second language writing skills. In the case of Japanese ESL students, L1 and L2 writing scores demonstrated weak correlation and for the Chinese learners was not significant. A few studies compared learner's compositions in English and Persian to examine the transfer of writing skills. Research conducted by Arefi (1997), and Zia Houseini and Derakhshan (2006), and Javadi-safa et al. (2013) are three cases in point. The results of Arefi's study (1997) indicated that first language (Persian) writing skill indicators of "linguistic productivity" (including number of words, number of T-units, etc.) and "holistic scheme" (including coherence, ending, etc.) transferred to the English language despite the very different writing system of these two languages. Although no apparent transfer of "technical writing skills" (including Punctuation, spelling, etc.) from first to second language, there was a positive correlation between the "technical skills" of the bilingual children under the study and their length of residence in Australia. Hence, Arefi (1997) deduced that this indicated that "a longer exposure to the language itself and the impact of schooling is important in developing technical skills." In another study Zia Houseini and Derakhshan (2006), investigating L1 and L2 narrative and argumentative compositions of Iranian college-level students, concluded the existence of a significant correlation between Persian and English writing tasks of Iranian EFL learners. Finally, Javadi-Safa et al. (2013) taking account of all and each major components of ESL Composition Profile (Jacobs et al., 1981), investigated the transfer of writing skill among upper-intermediate EFL learners in Iran who were majoring in the English language. The outcomes showed large correlations between the

compositions overall scores as well as between the four writing sub-skills in first and second language. The highest correlations were displayed between writing sub-skills of vocabulary, mechanics, language use, and content respectively.

At last, it is worth noting that in spite of the conduction of transfer studies at both written and oral levels, written transfer has been of chief appeal among most scholars in recent investigations.

Various Levels of Transfer Studies

Comprehensive research on language transfer contributed to demonstrate that it occurs at various levels. According to Cummins (2005), and from a sociolinguistic point of view, transfer studies can be classified into five types. They include transfer of phonological awareness, transfer of specific linguistic elements, transfer of conceptual elements, transfer of pragmatic aspects of language use, and transfer of metacognitive and metalinguistic strategies.

For instance, at phonological level, Wang, Perfettib, and Liu (2001) cited some research that demonstrated the transfer of phonological skills from one language to another language with similar alphabetic and orthographic principles (e.g. Cisero & Royer, 1995; Durgunoglu et al., 1993). In addition, investigating Chinese-English bilingual children, Wang et al. (2005) noticed the occurrence of certain level of phonological transfer even in learning to read two different writing systems. However, their study revealed that orthographic learning across the two different writing systems might be language-specific with little facilitation from one language to the other. More recently even, Bosma et al. (2017) found that learning cross-linguistic phonological regularities are related to verbal working memory.

Some studies investigated variables influencing lexical transfer in writing, including L2 proficiency, L1 background, gender, learning context, and motivation (for a review see Agustin Llach, 2010). Based on Agustin Llach's (2010) overview study on lexical transfer the following results concluded. Firstly, in spite of the general decrease of L1 influence with the increase of L2 proficiency, lexical transfer of meaning tended to increase. Secondly, students whose first language is typologically related to the target language were more likely to resort more often to their first language for lexical transfer purposes, but students from different linguistic backgrounds seemed to experience the identical lexical transfer processes. Finally, qualitative and quantitative dissimilarities were shown in first language lexical transfer of CLIL² and non-CLIL³ learners in their written compositions. Moreover, according to Agustin Llach (2010) investigations examining the interaction between gender and lexical transfer and between more and less motivated learners demonstrated lack of differences. Foroodi-Nejad and Paradis (2009) displayed

² "CLIL stands for Content and Language Integrated Learning and refers to the context where the foreign language is a vehicular language for content transmission."
(Agustin Llach, 2010)

³ "Non-CLIL classes refer to roughly traditional communicative classes." (Agustin Llach, 2010)

the cross-linguistic transfer of compound words from Persian to English as well as from English to Persian in Persian-English bilinguals. The result of their study provided partial evidence for structural overlap hypothesis and partial evidence for language dominance hypothesis. Chapeton (2008) examined how cross-linguistic influence manifests itself at the level of lexis and syntax in the written production of an Italian learner of English as a foreign language. She reported that forms and meanings in the second language are conveyed and shaped by the learner's knowledge and use of the foreign language as well as by the influence of the native language. Hakuta (1974, as cited in Liu, 2001) showed that there is a significant relationship between L1 transfer and the emergence of structure in L2 acquisition. Gass (1979, as cited in Liu, 2001) suggested that transfer shed some light on considering the grammatical element universal in human languages.

Moreover, language transfer studies can go beyond the syntactic and lexical levels to the conceptual levels (e.g. Bylund & Jarvis, 2011; Jarvis, 2011; Brown & Gullberg, 2011). For instance, Brown and Gullberg (2011) examined bidirectional cross-linguistic influence in event conceptualization specifically in the domain of path expression of Japanese learners of English. They demonstrated that event at modest levels of L2 proficiency, not only do L1 patterns shape construal in the L2, but also L2 patterns may delicately and concurrently expand construal in the L1 within an individual learner.

A number of investigations have also been conducted so as to demonstrate the influence of L1 knowledge of pragmatics on target language learning. For instance, Beebe et al. (1990) showed Japanese learners' overuse of the expression "*I am sorry*" in conversations as an indicator of pragmatic transfer. They perceived that the students were relying on the routine Japanese expression "*sumimasen*" which literally means, "I am sorry." Similarly, Wolfsan (1981, as cited in Behjat & Sadighi, 2010), having analyzed the way in which the transfer of speaking rules from one's mother tongue speech community influences interactions with members of the host community, concluded the transferability of pragmatic knowledge of L1 into the acquisition of L2.

Furthermore, Paramasivam (2009) cited some studies investigating transfer as a communication strategy in relation to learner variables like the learners' first language (Palmberg, 1979), learners' level of second language proficiency (Bialystok, 1983; Paribakht, 1985; Fernandez Dobao, 2003), nature of communication task (Poulisse & Schils, 1989; Corrales, 1989; Yarmohammadi & Seif, 1992), and types of formal instruction received (Tarone, 1984; Dornyei, 1995). She also demonstrated the potential learning effect of transfer as communicative strategy amongst second language learners of English when performing oral tasks in a Malaysian ESL classroom. However, there is no consensus among scientists on transfer of reading strategies. For instance, after citing some studies that support the idea of using similar reading strategies in two languages (e.g. Sarig, 1987; Tang, 1997), Nambiar (2009) demonstrated that proficient Malaysian-English bilinguals use different strategies for comprehending Bahasa Melayu and English texts. She justified the result of her study by referring to language learners' tendency to benefit metacognitive strategies in L2 reading to assist them with focusing, planning, and paying attention to what was important to help them build structure of the text. On the other hand, the learners could process L1 texts quickly with a minimal number of

strategies due to their prior familiarity with the text structure and the vocabulary knowledge.

CONCLUSION

As mentioned above, several studies concur that there is a significant relationship between first language (L1) and second language (L2) proficiency, and suggest drawing on the facilitating effect of cross-linguistic transfer in language learning. Hence, this area of research, also named as cross-linguistic influence, could be major milestone in motivating and directing curriculum designers and material developers to design language courses, having language transfer concern in mind and consequently calls for more research by interested scholars since it seems more economical to utilize previously learned items for learning new ones rather than initiating from the very beginning of their foundation.

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