

An Overview of Variables Affecting Lexical Transfer in Writing: A Review Study

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Abstract

The present papers intends to be a review study of lexical transfer. This overview does not claim to be exhaustive, but a review of some of the main variables influencing the process of cross-linguistic influence in lexis. The factors addressed in the present paper are i) L2 proficiency, ii) L1 background, iii) gender, iv) motivation, and v) learning context. In general terms, as learners' L2 proficiency increases the influence of the L1 decreases. Learners whose L1 is typologically related to the TL tend to resort more frequently to their L1 for lexical transfer purposes, but learners from different linguistic backgrounds seem to undergo the same lexical transfer processes. Studies investigating the interaction between gender and lexical transfer and between more and less motivated learners seem to reveal lack of differences. Finally, there exist quantitative and qualitative differences in L1 lexical transfer of CLIL and non-CLIL learners in their written compositions.

Keywords: Lexical transfer, EFL, Spanish learners, Individual and contextual variables

1. Introduction

Transfer in language learning has been widely researched since it is a crucial variable that affects the learning of a second or foreign language (see, e.g. Arabski, 2006; Celaya, 1992; Cenoz, *et al.* 2001; Jarvis, 2000; Odlin, 1989, 2003). Although there is no consensus concerning the definition, naming and the concrete effects of the phenomenon, it is a fact difficult to deny that the learners' mother tongue exerts some influence on the learning of a new language (see Celaya, 1992, p. 41-112; Jarvis, 2000, p.249; Odlin, 1989, p.25-47).

The field of transfer has multiple lines of research as manifested in the myriad perspectives from which native language influence has been studied. For instance, Kellerman (1977) started to study the language areas most liable to be transferred into the target language. He found out that learners tend to transfer only those structures, or lexical items, that they consider transferable because of similarity with structures in the target language. Learners' perceptions of what may be transferable or not lie on the basis of the distance between languages. This has come to be known as the *psychotypological perspective* (Cenoz, 2001; Kellerman, 1977; Singleton & O'Laoire, 2004; Williams & Hammarberg, 1998), and has been especially evident in research about third language acquisition (Cenoz, 2001; Dewaele, 1998, 2001; Ringbom, 2001; Singleton & O'Laoire, 2004; Tremblay, 2006; Williams & Hammarberg, 1998). These studies have shown that learners who are learning a third language do not necessarily transfer more from their L1, or the language they are more proficient in, but from the language (perceived as) typologically closer to the target language, be it L1 or Ln. This phenomenon is described as cross-linguistic influence. Other areas of research within the field of transfer are the type of transfer, i.e. positive transfer: cognates, lexical selection (Jarvis, 2000) or negative: lexical errors (Celaya & Torras, 2001; Celaya & Naves, 2009), the rate of acquisition of learners of different L1 backgrounds (Altenberg & Granger, 2002; Kempe & MacWhinney, 1996; Kolers, 1963; Odlin, 1989/1996; Singleton, 1996; Viberg, 1993), the linguistic aspect affected by the transfer (syntax, morphology, lexis) (Arabski, 2006). Language transfer is not equal to all areas of language so that some are more permeable to transfer than others. Lexis is especially sensible to cross-linguistic influence (Arabski, 2006; Bouvy, 2000; Kellerman, 1984; Ringbom, 1987). Lexical transfer has occupied researchers for a long time, and its negative effects: lexical errors have arisen much interest.

In this paper, we are interested in examining the relationship between lexical transfer and some variables that impose constraints on that transfer. Jarvis (2000) (see also Manchón Ruiz, 2001, p. 22) lists up to nine factors that interact with L1 transfer. His list looks as follows: 1) age, 2) personality, motivation and language attitude, 3) social, educational and cultural background, 4) language background (all previous L1s and L2s), 5) type and amount of target language exposure, 6) target language proficiency, 7) language distance between the L1 and the target language, 8) task type and area of language use and 9) prototypicality and markedness of the language feature (p. 260-261). From those factors we have selected for this general review the ones that we have considered especially interesting for their impact on lexical transfer and possible consequences for the field and have submitted them to careful scrutiny i) L2 proficiency (usually co-occurs with age and amount of exposure to the target

language), ii) L1 background, iii) sex or gender, iv) motivation, and v) learning context (CLIL vs. non-CLIL learners (Note 1)). The present paper is structured around these five variables. After a general review of the literature on lexical transfer, we will provide account of empirical research studies focusing on the exploration of the nature of the relationship between lexical transfer and each of the variables in turn. A general conclusion section will close the paper.

2. Review of the Literature: lexical transfer

The issue of transfer in lexis has been researched since long. Already in the nineteenth century the phenomenon of loanwords was discussed by linguists (Odlin, 1989, p.7). Lexical borrowing or loanwords are just one example illustrating the phenomenon of lexical transfer. Other lexical transfer phenomena are coinages or adaptations of L1 words to the phonographemic rules of the L2, false friends, words that look very similar in two languages, but mean different things, and calques or literal translations of L1 words or expressions into L2 structures, as examples of negative transfer. Lexical transfer can also have positive, facilitating effects in language learning, with cognates, i.e. words that look and mean similar in two languages, as the main exponent of this positive lexical transfer (cf. Odlin, 1989, p. 77-79). We can still refer to a third type of evidence for lexical transfer which is used by Jarvis (2000) in his research studies. This evidence is lexical reference or lexical choice which does not derive in a lexical error. In addition, Manchón Ruiz (2001) argues that transfer manifests also in avoidance (also Ringbom, 2006). Some words are avoided in learners' language because they may not feel at ease with those words.

From a procedural perspective, two main types of lexical transfer can be distinguished: transfer of form and transfer of meaning (de Angelis & Selinker, 2001; Ringbom, 2001, 2006). Transfer of form consists in the use of L1 words, either adapted to target language norms or not, when producing in the target language. These are occurrences of code-switching (Ringbom, 2001, p.60). Meaning-based lexical transfer errors are derived from the transfer of semantic patterns of the L1 into target language words, in the form of calques and semantic extensions (Ringbom, 2001, p.60).

Lexical transfer is a multifaceted phenomenon which responds to a variety of stimuli and purposes. Research addressing lexical transfer has dealt with both types of transfer and differences have been found concerning quantitative and qualitative production of the different lexical transfer categories according to variables such as age (Celaya & Torras, 2001; Cenoz, 2001; Gost & Celaya, 2005), grade (Naves *et al.*, 2005), proficiency (Tremblay, 2006; Williams & Hammarberg, 1998), or knowledge of at least one additional language (Dewaele, 1998, 2001; Ringbom, 2001). The findings of these studies have put forward that learners at different ages, in different grades, and with different levels of proficiency transfer to differing extent, for different purposes, in different ways, and from different languages.

As we have briefly mentioned above, lexical transfer is also influenced by the typological distance between source and target language. In this sense, learners are observed to transfer only those lexical items of the source language they consider transferable, for being at a not too far distance from the target language (Kellermann, 1977). When the learner is acquiring

his/her third or further language then the language typologically closer to the target language seems to be the source of the influence (Dewaele, 1998, 2001; Ringbom, 2001, 2006). However, especially at the earliest stages of target language acquisition, transfer from the other FL is still very common (Cenoz, 2001; Lasagabaster & Doiz, 2003; Williams & Hammarberg, 1998).

Lexical transfer responds to a variety of reasons. Basically, transfer is an essential cognitive process of L2 learning. The L1 is the only linguistic information available for beginning learners and they use it to start acquiring the foreign language. Learners establish equivalence relationships between L1 and TL words and basing on these interlingual identifications they transfer lexical items they consider common to both languages (Ringbom, 2006). Additionally, the L1 may impose some constraints when learners make their hypothesis about the L2 and this influences the process of lexical acquisition. It is important to highlight that lexical transfer is used as a learning strategy leading to SLA (Murphy, 2003).

Lack of vocabulary in the L2, incomplete word knowledge, non-automatized and therefore not available lexical knowledge, or a cognitively too demanding communicative task are situations that make the learner replace L2 words for L1 ones (Manchón Ruiz, 2001). In these cases, the learner falls on the native language without any previous notice, be it either consciously or unconsciously (Celaya & Torras, 2001; Dewaele, 1998; Naves *et al.*, 2005; Tremblay, 2006; Viladot & Celaya, 2006). The need to communicate collides with lack of lexical knowledge in the L2 and in order to overcome this problem, learners decide to resort to their L1 inserting L1 words in the L2 discourse (Note 2) (Ecke, 2001, cf. also Dewaele, 1998; González Álvarez, 2004; Poullisse, 1993; Rababah, 2002). These mechanisms have been frequently known as communication or compensatory strategies. In this sense, lexical transfer is used as a compensatory strategy in order not to abandon communication.

Learners may also resort to their L1 to ask for information about lexical items in the target language. In such cases researchers talk of the pragmatic function of the L1 (Gost & Celaya, 2005; Viladot & Celaya, 2006; Williams & Hammarberg, 1998). Whatever the reason or cause of transfer, it is generally acknowledged that it is a cognitive process brought into action while learning or using the foreign language to help the learner cope with this task (cf. Manchón Ruiz, 2001).

Studies of lexical transfer and cross lexical influence have also served to investigate the organization of the foreign mental lexicon (Ecke, 2001; Herwig, 2001). According to the features of lexical items affected by lexical errors due to transfer, i.e. lexical meaning, lexical form, syntactic class, researchers make hypotheses regarding how foreign words are stored in the mind of the learner, and how L1 and L2 are related in the lexicon or lexicons of the learner (Singleton, 2006).

Lexical transfer in writing is much less frequent than in oral tasks, and most studies acknowledge this fact under the light of the small figures of lexical transfer instances found in their studies (cf. Celaya & Naves, 2009). Writing a composition is not an spontaneous task and learners have enough time to plan their writing, to think about the content and form of the composition, to retrieve L2 words from memory, and to revise their production (cf.

Gabryś-Barker, 2006, p.144). Nevertheless, we still find a researchable number of lexical transfer episodes. Lexical transfer may be more frequent in low level learners, young learners (cf. Arabski, 2006) and learners with low linguistic awareness. With these type of students the principle that marked structures or idiomatic expressions are not transferred (cf. Ringbom, 2006) probably does not apply. They lack linguistic awareness. In sum, the influence of the mother tongue in lexical use in writing is pervasive and manifests in a myriad ways, so that it cannot be ignored in research.

The nature of lexical transfer is constrained and determined by different variables that interact with it. Below, we offer a review of some of the studies addressing this relationship.

2.1. Lexical transfer and L2 proficiency

Myriad studies have put forward that L1 influence decreases as experience with the language and proficiency increase. In this sense, research shows that the performance of beginner learners showed more instances of negative transfer than that of more advanced learners (Herwig, 2001; LoCoco, 1975; Naves *et al.*, 2005; Olsen, 1999; Ringbom, 1987; Williams & Hammarberg, 1998). These results confirm the idea that transfer is used as a strategy to fill lexical gaps when learners lack L2 knowledge (Murphy, 2003). As regards positive transfer such as cognate use, Odlin (1989) points out that it increases with high levels of proficiency. Definitely, the relationship between lexical transfer and L2 proficiency is complex; Jarvis (2000) provides with a very thorough account of the direction of the evolution of L1 transfer with respect to target language proficiency. He reviews the existing literature on the issue finding evidence for and against the decrease of L1 influence as L2 proficiency augments. This conclusion finds support in Garcia Lecumberri and Gallardo's (2003) contention that L1 transfer is pervasive in all age groups and the main strategy for all learners. At the earliest stages of acquisition the L1 serves as the reference framework and scaffolding for the development of new grammatical structures and the incorporation of new vocabulary. However, as the learner progresses in the process of acquisition, the target language gains the floor to the L1, but it still exerts some influence on learners' interlanguage (IL). The controversy in results may be due to the different focus of attention. Quantitatively, lexical transfer has been observed to reduce, but in qualitative terms, some types of lexical transfer such as coinages (adaptations of L1 words to the graphophonetic and morphological rule of the target language) and calques (literal translations) have been observed to increase with proficiency.

Several studies have put forward a reduction in the extent of the influence of the L1 in lexical use as the learner gets more proficient in the target language (Celaya & Ruiz de Zarobe, 2008; Naves *et al.*, 2005; Palapanidi, 2009; Ringbom, 1987; Williams & Hammarberg, 1998). Borrowings have been found to decrease considerably with proficiency. Naves *et al.* (2005) report that as learners progress in school grade their use of borrowings and lexical inventions decreases, nevertheless, the difference is significant only for borrowings. Celaya (2007) observed that borrowings decreased from 5th to 7th grade, whereas lexical inventions (coinages and calques) increased slightly with grade (also Celaya & Torras, 2001; Gabryś-Barker, 2006, Gost & Celaya, 2005). (Note 3) This seems reasonable if we assume

that learners in upper grades have a higher degree of mastery of the vocabulary of the foreign language, and know more words in the L2. Consequently, they are able to use L2 words to translate L1 structures, and do not need to borrow directly words from L1. This result is consistent with the observation that calques are typical of the discourse of more highly elaborated L2 written compositions (Agustín Llach, 2007a). Lexical inventions based on L1 knowledge such as coinages and in particular calques imply higher proficiency in the target language, since they derive from the application of target language phonographemic rules to L1 words in the case of coinages and of literal translation and semantic extension of L1 to L2 words in the case of calques. As preceding studies have showed (Celaya & Torras, 2001; Dewaele, 1998, 2001; Gabryś-Barker, 2006; Palapanidi, 2009; Ringbom, 2001), as proficiency increases meaning related transfer becomes more common and form related transfer, i.e. borrowings, decreases.

This may have to do with a restructuring of the organization of the lexicon from formal-based associations to semantically-based associations as learners gain proficiency in the foreign language (cf. Herwig, 2001; James, 1998; Meara, 1984). However, further research in this field is warranted.

2.2. Lexical transfer and L1 background

The existence of interlingual errors has revealed that learners of different mother tongues face the process of acquiring a second language vocabulary in different ways in the sense that they seem to have difficulties with different aspects of the target language. Heretofore, research examining learners of different L1s and their transfer processes has concentrated mainly on grammar and syntactic acquisition with most of these studies dating back to the decades of the 70s and early 80s. Nevertheless, several studies have tackled the lexical acquisition processes in English of learners from different language backgrounds (see Jarvis, 2000; Hu et al., 1982; Yu, 1996; VanParys et al., 1997). These studies highlight the differences in lexical production between learners of different L1s and consider that those differences (some at least) are traceable to the influence of the mother tongue. Typological distance is considered a crucial variable in language transfer with typological closeness facilitating transfer (Cenoz, 2001; de Angelis & Selinker, 2001; Ecke, 2001). It is an overriding factor (Ringbom, 1987; Cenoz, 2001).

Agustín Llach et al. (2006) found out that for primary school beginner EFL learners with a predominantly oral approach, Spanish natives committed fewer lexical errors in writing due to transfer than their German peers. Considering the semantic similarity between English and German, above all as their basic vocabulary is concerned, this result may seem surprising. It can be explained alluding to the theories of the psychotypology trend (see also Yu, 1996) in the sense that the perceived lexical similarity between the target and source language may lead learners to transfer their native language lexical knowledge. This transfer strategy derives in a considerable number of minor lexical errors such as spelling errors, semantic confusions or distribution errors. The typological distance between Spanish and English inhibits learners from transferring, since lexical items are not perceived as transferable (cf. Agustín Llach et al., 2006). Lexical difficulties solved by means of lexical transfer are found

to be more frequent in related languages. This result runs parallel with those of Arabski (2006) and Ringbom (2006) who reached the conclusion that transfer is more frequent in those areas where L1 and L2 are structurally similar and there are more points of reference. Nevertheless, as learners' proficiency in the FL increases lexical similarity will allow for positive lexical transfer when students notice the minor differences between languages (Hu et al., 1982; Odlin, 1989). It has been commonly argued that lexical transfer is a universal strategy or learning process, although learners of different language backgrounds resort to it to different degrees, that is, there may be no qualitative differences but quantitative ones. Moreover, Agustín Llach et al. (2006) conclude that the lack of correspondence between L1 and L2 phonographemic conventions, e.g. consonant clusters, disagreement between spelling and pronunciation, non-existence of certain sounds (e.g. /æ/) is the original cause of most of the lexical errors of Spanish and German primary school learners.

However, when attention is paid to the types of lexical transfer we realize that the underlying processes in lexical transfer, e.g. borrowing, foreignizing, i.e. coinage or adaptation, and literal translation are common to learners of different linguistic backgrounds: Agustín Llach (2007b) for Spanish and German primary school EFL learners, Celaya and Torras (2001) for Catalan and Spanish primary school EFL learners, and Bouvy (2000) for French primary school EFL learners. Learners are observed to apply similar learning and communication strategies, and to resort to the same problem-solving mechanisms as lexical transfer is concerned. In this sense, we should point to the universal character of lexical transfer without denying the idiosyncrasies of each particular language group.

The current tendency in research is to cross lexical transfer in the acquisition of a third language (cf. Arabski, 2006; Cenoz et al., 2001; Murphy, 2003) and to interpret results in light of the language distance between the target language the learners' mother tongue rather than examining the nature of lexical transfer through the differences or similarities of learners with different L1s.

2.3. Lexical transfer and gender

Gender is one of the most relevant factors to distinguish among learners. A great number of studies have been devoted to researching gender differences in the several areas of second language acquisition. Concerning the field of vocabulary acquisition, the role of gender has also occupied a prominent place. Studies that address gender differences in the several aspects related to lexical acquisition abound. Results are inconclusive within this area, as well, with variability depending on the aspect examined.

Studies dealing with vocabulary learning strategies (Jiménez Catalán, 2003) point to girls being superior to boys in quantitative and qualitative terms. In other words, girls use a greater number of strategies and also a wider range of strategies than their male peers. From this, we could argue that girls would also recur to their previous linguistic knowledge more frequently for transfer purposes, or it may be that they use a wider variety/ range of strategies and do not need to resort to lexical transfer as frequently as male learners do. However, research has not provided for answers to these questions and there are very few studies that have dealt with the examination of gender differences concerning the strategy of lexical transfer.

A study conducted Agustín Llach (2009a) revealed that there are no gender differences in lexical transfer across grades. This result supports those studies that found no gender differences in foreign language use in other vocabulary-related areas: receptive vocabulary size (Agustín Llach & Terrazas Gallego, 2008), lexical inventions (Agustín Llach, 2010), controlled productive vocabulary size (Moreno Espinosa, 2010). However, other studies found out that boys and girls differ in elicited production of vocabulary (Fernández Fontecha, 2010), in vocabulary strategy use (Jiménez Catalán, 2003), or in motivation in vocabulary learning (Fernández Fontecha, 2010). From these results, we believe that gender differences are determined by two main aspects: type of task and social nurture. Concerning the first aspect, we can argue that different tasks require different mental processes. Research on mental processes underlying cognitive tasks (Halpern & Wright, 1996) revealed that girls are superior to boys performing several mental processes, while boys are superior with other processes. In this sense, we can conclude that only when learners have to face different cognitive tasks do gender differences appear. Insofar as the writing task is the same for all learners, we can safely assume that the mental processes learners have to engage in are the same. Therefore, the lack of gender differences can be accounted for.

The second aspect refers to social rather than biological differences between boys and girls. Previous studies (Jiménez Catalán & Ojeda Alba, 2007, 2008) have suggested gender differences in vocabulary use, especially concerning production of semantic fields. If the sample of learners is very homogenous with regards to the social context, proficiency level, age and especially the learning context (e.g. formal context within a communicative classroom, with limited input outside the classroom), we can argue that learning context is in this sense more relevant to lexical transfer in writing than other aspects that may lead to gender differences.

In the study mentioned above (Agustín Llach, 2009a) the evolution of gender differences across four years was examined. From the results, we could observe that lexical transfer in writing originated no gender differences disregarding the age and proficiency level of learners (Note 4). It seems safe to argue that lexical transfer in writing is independent from the gender of the learner and this is true for learners at different ages and proficiency levels. Moreover, we can also observe that as proficiency increases, lexical transfer decreases and changes its nature, but still no significant gender differences can be found.

2.4. Lexical transfer and motivation

Vocabulary production in free writing in the foreign language is a complex task. When learners lack the necessary lexical knowledge to accomplish this task satisfactorily, then some kind of lexical transfer comes into play. Most foreign language learners beginning the process of foreign language acquisition start from the assumption that every word in the L1 has an equivalent in the L2 (Blum & Levenston 1977, p. 16; Ringbom, 2006). Research on lexical transfer has focused basically on examining the lexical transfer behaviour of learners considering different variables as we can see along this paper and previous research, but studies addressing differences in lexical transfer regarding learners' level of motivation are definitely very rare.

Motivation in language learning has been traditionally considered one of the main factors related to language achievement. Most studies coincide in pointing out the positive relationship between language achievement and motivation (Bernaus & Gardner, 2008; Csizér & Dörnyei, 2005; Yu & Watkins, 2008) and more specifically, some studies report a positive effect of motivation on different aspects of FL vocabulary learning (Elley, 1989; Gardner & MacIntyre, 1991; Gardner, Lalonde & Moorcroft, 1985).

In line with results in motivation and FL vocabulary acquisition studies, Fernández Fontecha's research (forthcoming) on learners' motivation towards EFL and their achievement in a productive vocabulary test reveals a positive correlation between the learners' mean motivation and their achievement in the vocabulary test. This could mean either that those highly motivated learners have higher levels of vocabulary knowledge, or that they are simply better language tasks producers irrespective their true lexical knowledge. If the first is true, then we could expect lower degrees of lexical transfer in more motivated learners, because they have larger productive vocabularies. If, by the contrary, the second is true, we could not be sure what the results concerning lexical transfer could be. More motivated learners who are better task performers may transfer more because this helps accomplishing the task. But if vocabulary level is the same learners would have similar lexical difficulties, so recourse to L1 to solve them may be similar or to similar extent.

A study conducted by Fernández Fontecha and Agustin Llach (2009) revealed that lexical transfer is independent of motivation. Authors argue that motivation seems to affect task performance but not either lexical competence, as evidenced by lack of differences in lexical transfer; nor linguistic competence, as evidenced by lack of differences in tests of general language proficiency. The fact that more motivated learners write significantly longer compositions supports this argument. We could also think that learners who were found to perform better in vocabulary tasks did not really have larger vocabularies, but were better task performers. This study comes to support the idea that transfer can be considered as a communication strategy rather than as a constraint in SLA or the inert outcome, that is the result of internal processes (Alonso Alonso, 2002). Learners will recur to lexical transfer as a communication strategy when they encounter communication difficulties or problems, when the communicative requirements of the task are higher than their lexical knowledge.

2.5. Lexical transfer and learning context

Within formal classroom teaching, we can nowadays distinguish two basic learning contexts: traditional instruction with English FL as a school subject and CLIL instruction with English as a subject and as the vehicular language for other content subjects (e.g. biology, history, art). In a CLIL context not only does the amount of exposure to the TL increase, but also the type of input changes.

The rationale for this learning context bases on the idea that learners who are exposed to large amounts of language will be expected to develop higher levels of proficiency in the foreign language. This seems specially true for vocabulary development, with CLIL students learning more words and more nuances (associations, collocations, syntax, etc.) of words than learners in instructional approaches. In this sense, it can be expected that learners involved in a CLIL

approach will show fewer instances of L1 lexical transfer than other learners receiving traditional instruction in the foreign language, even with communicative approaches.

Studies which have compared both approaches, i.e. CLIL teaching and regular foreign language classroom contexts reveal that in fact learners in traditional learning settings produce significantly more lexical transfer errors than their CLIL peers (Agustín Llach, 2009b; Celaya, 2007). Two basic reasons can account for this difference. In the first place, it seems reasonable to relate lower production of L1-influenced errors in vocabulary to higher levels of proficiency. This is in line with the findings of research which pointed to a decrease of L1 influence as experience and proficiency in the L2 increase (see, for example, Herwig, 2001; Naves *et al.*, 2005; Williams & Hammarberg, 1998). In this sense, as proficiency increases, episodes of lexical transfer are replaced by intralexical influence, since the learner has available a larger lexical repertoire and recourse to previous linguistic knowledge is not necessary.

Secondly, the different instructional approaches the learners receive lead to differences in the way they perceive and understand the foreign language. For CLIL learners, the target language is used as a means of instruction, and of communication, but for non-CLIL learners, English is merely a school subject. In this sense, for non-CLIL learners, who do not really perceive the target language as a means of communication, writing in the foreign language is nothing more than a classroom task. By the contrary, for CLIL students writing a composition in English may imply a meaningful interaction and thus the text becomes an exercise of communication rather than a language task (Agustín Llach, 2009b). Rokita (2006) also noticed in an analysis of code-mixing episodes in very young early bilinguals and L2 learners that whereas the former conceived English as a tool to communicate, for the latter it was something they had to learn to please their parents, and never really used English to interact.

Furthermore, in qualitative terms research shows (Agustín Llach, 2009b; Celaya, 2007) that borrowings is a much more frequent category of lexical transfer for non-CLIL learners. Lack of borrowing production in the writings of CLIL learners may respond to the fact that insertion of L1 words without any adaptations would seem as hindrance to communication, and as said above CLIL learners perceived the writing task as a communication activity. Other researchers such as Celaya & Torras (2001), Rokita (2006), and Williams & Hammarberg (1998) already pointed out that borrowings are characteristic of learners at early stages of acquisition, and that they tend to decrease in the production of learners with higher levels of language competence.

On the contrary, lexical inventions have been found to be more numerous in the production of CLIL learners (Agustín Llach, 2009b; Celaya, 2007) with a tendency to increase their presence in the learners' production as proficiency augments (Celaya & Torras, 2001; Naves *et al.*, 2005). This is in line with Celaya & Torras (2001), Dewaele (1998, 2001), Gabryś-Barker (2006), and Ringbom (2001) who showed that as proficiency increases meaning related transfer becomes more common. The communicative approach used for the instruction of the CLIL learners may also serve as evidence for the meaning-related transfer, which is more common than form-related L1 influence (cf. Ecke, 2001). Results of CLIL

and non-CLIL settings parallel those between proficient and less-proficient FL learners.

3. Conclusion

A review of the literature on lexical transfer supports the idea that there are multiple factors that interact in complex ways in the incorporation of L1 lexical items into the L2.

This paper is a preliminary attempt to explore the different variables affecting non-target vocabulary use in writing in light of current studies on lexical transfer. Some of variables have not been explored sufficiently in the current research, such as L1 background and motivation and merit further research. An important direction for future research lies in the area of lexical transfer.

In general terms, we can conclude that as learners' L2 proficiency increase lexical transfer changes. On the one hand and considered globally, the influence of the L1 decreases. On the other hand, if examined qualitatively, research shows that some types of lexical transfer, basically those that have to do with meaning transfer, tend to increase with proficiency. In conclusion, it is clear that proficiency has a strong effect on language transfer.

Concerning language background, studies revealed that those learners whose L1 is typologically related to the TL tend to resort more frequently to their L1 for lexical transfer purposes. Nevertheless, research also showed that learners from different linguistic backgrounds undergo the same lexical transfer processes irrespective their native language.

Gender is a variable that affects many different areas of language acquisition. Studies investigating the interaction between gender and lexical transfer are scarce, but they seem to reveal lack of such differences. Male and female learners are observed to transfer to similar extents and in similar ways when producing vocabulary in the foreign language. The homogeneity of the class as concerns the teaching approach and the type and extent of the exposure can be accounted to explain this lack of differences.

Motivated learners are not observed to transfer less than less motivated learners. One possible reason for this is that motivation has an effect on task performance but does not seem relevant or crucial for vocabulary acquisition processes. Lexical transfer processes seem to depend more on learners' knowledge than on their ability to perform a writing task.

To conclude, this study has found that there exist quantitative and qualitative differences in L1 lexical transfer of CLIL and non-CLIL learners in their written compositions. However, one must remain circumspect considering and interpreting results, because the only evidence we have available are the products of the transfer, and not the process of transfer itself.

Further research could examine the influence of two further variables that seem to be relevant in lexical transfer: word class and word frequency. Murphy (2003, p.15) notes that high frequency L1 words are more prone to be transferred to the L2 or / TL, in particular they are likely candidates for unintentional transfer because they are activated frequently, especially during the first stages of L2 learning they reach high activation levels. Likewise, Murphy (2003, p.15) highlights that whereas content words are subject to intentional transfer for gap-filling purposes, basically, the transfer of function words is unintentional or unconscious

and involves non-adapted L1 function words. Future studies should address these issues in more detail as well as contrastive and comparative studies showing learners possible cognate areas and making them aware of the similarities and differences between the L1 and L2.

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Notes

Note 1. CLIL is the acronym for Content and Language Integrated Learning and refers to the context where the foreign language is a vehicular language for content transmission. Non-CLIL classes are roughly traditional communicative classes.

Note 2. All through the paper we use the term L1 influence to refer to general Cross Linguistic Influence (CLI). We believe that the phenomena and factors we deal with appear in general CLI and not just in L1

Note 3. For a thorough summary of results concerning L2 proficiency and lexical transfer from the L1 see Celaya & Naves (2009).

Note 4. These co-occurred in this our sample.