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Cross-linguistic influence and language switches in L4 oral production¹

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Abstract

This study examines cross-linguistic influence and language switches in the oral production of English by Catalan-Spanish bilingual learners who have learned French as the first foreign language at school. The research questions consider the sources of borrowing, the choice of language for borrowings and code switched utterances, the type of transfer material (content and function words), as well as the effect of learners' TL proficiency level on cross-linguistic influence. The results highlight the effect of proficiency level and contextual factors. It is also suggested in the discussion that the different patterns of language choice in borrowing and code switching may be explained in terms of the different stages in the speaking process.

Keywords: lexical borrowings, code switching, L3, L4, speaking process.

Resumen

Este estudio examina la influencia translingüística y los cambios de código en la producción oral de inglés por parte de estudiantes bilingües catalán/español que han aprendido francés como su primer idioma extranjero en el instituto. La investigación se centra en cuatro preguntas, relativas a las fuentes de los préstamos, la elección del idioma fuente de los préstamos y de las oraciones con cambio de código, el tipo de material transferido (palabras de contenido y de función), y a la influencia del nivel de dominio del idioma y factores contextuales. En la discusión de los resultados se sugiere también que los diferentes tipos de elección de idioma en los préstamos y cambios de código se pueden explicar en términos de los diferentes niveles del proceso de producción oral.

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Palabras clave: préstamos léxicos, cambio de código, L3, L4, proceso de producción oral.

Résumé

Cette étude examine l'influence translinguistique ainsi que les occurrences de changement de code dans la production orale en anglais de la part d'apprenants bilingues catalan-espagnol ayant appris le français à l'école comme première langue étrangère. Les questions que cette recherche envisage sont les sources des emprunts, le choix de la langue pour les emprunts et les énoncés avec changement de code, le type de matériel linguistique transféré (mots fonctionnels et mots de contenu), ainsi que l'effet du niveau de compétence des apprenants en langue cible sur l'influence translinguistique. Les résultats soulignent l'effet du niveau de compétence et des facteurs contextuels. Il est aussi suggéré dans la discussion que les différentes tendances de choix de langue pour les emprunts ainsi que pour les changements de code peuvent être expliquées en termes de stades différents du processus de production orale.

Mots-clés : emprunts lexicaux, changement de code, L3, L4, processus de production orale

1. Introduction

The aim of the present study is to examine cross-linguistic influence and language switches in the oral production of English by Catalan-Spanish bilingual learners who have had a previous experience of learning French as the first foreign language at school.² As in any study in the field of multilingual acquisition, the learning situation studied here is unique. In the present case, it is expected that the findings might contribute to the field of third/fourth, etc. language acquisition and use, providing data from learners with a bilingual background, in which the two languages can be the family or school language or both, and the third (French) and the fourth (English) languages are foreign languages.

Spanish, Catalan and French belong to the Romance family of languages, and English is a Germanic language with a significant number of words of Latin origin. Catalan and Spanish are very closely related after centuries of language

² Jessner (2003: 49) proposes the term *cross-linguistic interaction* to embrace these language contact phenomena, from transfer to code-switching.

contact and share much basic vocabulary. Catalan is also more closely related to French than Spanish is. On the other hand, French is more closely related to English than Spanish and Catalan are, sharing numerous cognates. It may be interesting to see how this particular network of language relations appears reflected in learners' cross-linguistic influence and interaction.

The study poses four research questions. The first one enquires about the source(s) of cross-language transfer in English (L4) oral production and includes two sub-questions: Will the subjects' family or dominant language be the main source of transfer? Will the learners also transfer lexical material from their previously learnt foreign language? The second research question looks beyond transfer phenomena and examines uses of the previously learnt languages in search of patterns of cross-linguistic interaction in these multilingual learners. In particular it addresses the choice of language for code switched utterances: Will learners rely on the same language/s in both transfer and code-switching? In consonance with previous studies, the third research question is related to the characteristics of the transferred words: Are content and function words transferred in similar proportion by these learners? The fourth research question asks about the influence of learners' TL proficiency on cross-linguistic influence: Will the productions of learners with lower proficiency level be more affected by transfer than productions of learners with higher proficiency level?

2. Literature background

In an increasingly multilingual world, studies in second language acquisition have recently been enriched with analyses of the acquisitional processes in third language acquisition. Still in its infancy, most of the work in third language acquisition (L3 will be used henceforth in general when one or more languages have been acquired after the second) has focused on lexical aspects and has explored the issue of the respective roles of the learners' previous languages (see Cenoz, Hufeisen and Jessner, 2001, for a collection of work in this area). A number of factors that appear recurrently seem to be determinant, to different extent in the different studies and in various constellations of cross-linguistic influence in L3 acquisition and use: language distance or language typology (or psychotypology), recency of use, language proficiency, and L2 status.

The role of language distance in cross-linguistic influence on L2 learning has been widely recognized. For example, in the area of vocabulary similarity to words in the mother-tongue has been reported to help learning: cognates are easier to learn than non-cognates (Lotto and De Groot, 1998) and also phonological similarity has been observed to make learning easier (Service and Craik,

1993). In the area of L3 acquisition, the interplay of distances between the three languages increases the complexity of the possible effects in an interesting way. The study by Ringbom (1987) of the acquisition of English by Finnish-Swedish bilinguals in Finland –distributed in two groups according to first language, Finnish or Swedish– provides clear evidence of the importance of language distance. When comparing transfer errors made by the group of native-speakers of Finnish and by the group of native-speakers of Swedish, respectively, in writing samples in English, Ringbom found that the former produced many transfer errors based on both Finnish and Swedish, while the latter only made errors based on Swedish, despite the many years of school instruction in Finnish. Transfer errors were also different, with the Finnish-speaking learners being more willing to assume that any Swedish form was cognate with English than the Swedish-speaking learners did, and hence producing more false friends than the latter did. Ringbom interpreted this finding as clear evidence that the estimation made by Finnish-speaking learners of the language distances between English, Swedish, and Finnish is different from the estimation made by the Swedish-speaking group. That is, the former were more willing to believe there were many formal similarities between the two Germanic languages.

Certainly, the more languages are involved, the more complex the possible interactions between the languages may be. Williams and Hammerberg (1998) present a very detailed study of the different roles associated with each previously learned language. The learner in their study was a native speaker of English with high proficiency in German, and some proficiency in French and Italian. The target language was Swedish (referred to as L3). The analysis revealed that the two Germanic languages, German and English, were the chief influences, and that they played distinct roles. While German had a *supplier* role, the role of English was *instrumental*. That is, while German often supplied material for L3 lexical construction, English was the language used by the learner for meta-linguistic comments, appeals of assistance, self-repairs and the like, that is what they call pragmatically functional language switches which do not constitute an attempt to speak in the L3. Williams and Hammarberg (1998) highlight the importance of four factors: typology, proficiency, recency and L2 status (a general tendency to activate an earlier secondary language in L3 performance rather than L1). They propose that the language that reaches the highest overall value for these factors will best qualify to serve as supplier. While both German and English score high in terms of typological similarity to L3, level of proficiency and recency of use, only German is, like Swedish, a foreign language. According to Williams and Hammarberg (1998), this renders German more likely to be activated than L1 in early L3. However, the lack of experimentally controlled

research with typologically sufficiently different languages diminishes the strength of the claim concerning a special L2 status. As De Bot (2004: 27) suggests, an explanation to the high impact of the L2 in comparison with the L1 may be that the latter, because it is used more, forms a stronger network which accordingly can be deactivated as a whole more easily than the more loosely organized second and third languages.

The study by Singleton (1987) of another multilingual learner points to the existence of combinations of possible influences in the target language lexical construction. Singleton (1987) studied the production in French of a native speaker of English, who had learned Spanish, Latin and Irish previously, although the learner's competence in Spanish was higher than in Latin and Irish. Singleton found Spanish to be the chief source of influence on the learner's French, some transfer from English, and less influence from Latin and Irish. In addition, combinations of influences of the different languages were also noted. The contribution of more than one source language to an interlanguage construction has been observed in other trilingual settings (such as Singapore; see Ho and Patt, 1993).

Cross-linguistic influence and language distance are affected by subjectivity: This subjectivity has crucial implications for the role that a second language may play in the acquisition of a third. Kellerman's (1977, 1978, 2000) observation that learners can sometimes be sceptical that they should take advantage of similarities between the native and target language, or even be afraid of similarities between the two, clearly shows the importance of subjectivity. Research in third language acquisition has confirmed that learners' psychotypology, or learners' perceptions of language distance (Kellerman, 1983), may be an important determinant of which of the learners' previous language becomes the chief source of transfer in the acquisition of a specific L3 (Ahukanna, Lund and Gentile, 1981; Ringbom, 1987).

The learners' proficiency level in the L2 has been seen to play an important role in L3 acquisition. It has been frequently reported that the L2 in which the learner is most proficient becomes the chief source language in cross-linguistic influence (Williams and Hammarberg, 1998; Singleton, 1987). De Angelis and Selinker (2001), and Ringbom (2001) report influence from the L2 at advanced stages in the TL, on condition that proficiency in the former is advanced or native-like. Also the learners' proficiency level in the L3 has been observed to have an influence on the amount of transfer in which learners engage, and the less proficient learners have generally been reported to transfer more elements from their background languages than the more proficient learners (for example, Ahukanna, Lund and Gentile, 1981; Ringbom, 1987; Poulisse, 1990). In the same

direction, Navés, Miralpeix and Celaya (2005) have reported a steady decrease in the amount of borrowings from grade 5 (age 10-11; after 200 hours of instruction in English) through grade 12 (age 17-18; after 726 hours of instruction in English), and statistically significant differences between the different proficiency-level groups in a study of Catalan-Spanish bilingual learners of English.

Other issues that have played a relevant role in discussions of transfer in L2 acquisition such as whether learners transfer more content or function words have also been considered in studies of cross-linguistic influence in L3. Poullisse and Bongaerts (1994) found that more function than content words were transferred in oral productions in English by Dutch learners from grade 11 (age 15-16) and from grade 9 (age 13-14). Using a spreading activation account of bilingual lexical access, Poullisse and Bongaerts attributed the higher frequency of function words, particularly among beginning learners, to the fact that they are more frequent, and hence require less activation than content words. In addition, following Giesbers (1989), who also found more function words in his data, Poullisse and Bongaerts suggest that beginning learners may not have had enough attention to spare for accessing and monitoring function words, which convey little meaning. Evidence from research in L3 use has been mixed. For example, Cenoz (2002) reported more content than function words in the analysis of transfer in oral narrative productions of Basque-Spanish bilinguals in English in grades 2, 6, and 9. Cenoz suggests that Basque-Spanish bilinguals may not borrow function words from these languages because they perceive them to be very distant from English, in contrast to learners from a Germanic language like Dutch. Navés, Miralpeix and Celaya (2005) report similar proportion of content than function words in written productions of Catalan-Spanish bilingual learners of English in students in grades 5 (age 10-11) and 7 (age 12-13) in their second year of English. In the latter case, language modality (oral vs. written) may partly explain the discrepancy. Results cannot be compared straightforwardly, however, for only Poullisse and Bongaerts excluded intended L1 use from the analysis.

Cross-linguistic influence may also be affected by contextual factors, such as the setting or the interlocutor. Research in L2 acquisition seems to indicate that learners in instructional settings may be particularly wary about cross-linguistic correspondences (Kellerman, 1977), in contrast to learners in naturalistic settings (Sridhar and Sridhar, 1986, in Odlin, 2003). The level of formality of the speech situation has also been reported to have an influence on the number of terms transferred from the L2 to the L3 (Dewaele, 2001). Dewaele found code switches, at word, phrase or sentence level, were less numerous in the formal situation suggesting a general move towards the monolingual end of the language

mode continuum (see Grosjean, 2001). The role of the interlocutor was also highlighted in Williams and Hammarberg's (1998) study, suggesting that the learner's language choice in code switches may be partly determined by the interlocutor's use of languages.

Finally, L3 studies are also contributing to the field of L2 acquisition and bilingual acquisition by producing evidence that bears upon a model of bilingual and multilingual production. In this direction, Hammarberg (2001) elaborates on his previous findings (Williams and Hammarberg, 1998) and traces the two different ways in which a speaker's languages can interact with one another at different stages of the speaking process (Levelt, 1989). Hammarberg proposes that the pragmatically functional language switches in their data constitute a temporary selection of another language, intentional or not, whose choice is determined in the conceptualiser. In contrast, the influence of the supplier role in the construction of a lexeme in L3 arises in the attempts to produce formulations in L3, and the central process takes place in the lexicon. Hammarberg assumes De Bot's (1992) bilingual model of language production, adapted from Levelt's Speaking model (1989), and suggests that the strong tendency of the L2 (German) to predominate in the role of external supplier in their learner suggests that this language, rather than the L1 (English), may be co-activated with L3 (Swedish) during utterance production in this language.

Dewaele (2001) departs from Grosjean's (1997) model of language modes and explores how it could be extended to account for the speech production of trilinguals or multilinguals, and in particular for the selection of one language, which is not the first language, while the other two languages remain in the background. Using data from learners of French who had Dutch as L1 and English as an L2 or L3, Dewaele discusses how the data may provide evidence for proactive models, where lemma selection operates by activation/deactivation, or for reactive models, where lemma selection proceeds by inhibition of potential competitors. He concludes that the data could be interpreted as supporting both types of models, and suggests a combination of an activation/deactivation model (Roelof, 1998) and Grosjean's model of language mode. In this proposal language selection is based on a hierarchy of production rules, which varies according to the language mode of the speaker (multilingual or monolingual).

3. Method

3.1. *Participants*

The subjects in this study were 29 school students, aged between 16 and 20, 13 female and 16 male. They were all formal learners of English from six different state-funded schools in Catalonia.

All subjects were bilingual Catalan-Spanish. The official language of the school in Catalonia is Catalan, which guarantees a good command of the minority language also among students whose family language is Spanish. Spanish is also learned in schools as a language subject, and it may also be used by some teachers as the language of instruction, particularly in secondary education (see Muñoz, 2005). Because of its status as the majority language Spanish is also often chosen by students for their informal exchanges both inside and outside the school (see Vila and Vial, 2002). In this particular socio-linguistic situation students are competent bilinguals, but for some one or the other language may be more dominant. Language dominance in this study was established on the basis of their answers to a questionnaire in which learners were asked about the language(s) they spoke at home, with their mother, father, brothers, sisters and close relatives and friends. Consequently learners were sub-categorised into three groups: Catalan-dominant, Spanish-dominant and family or balanced bilinguals. For five Catalan was the dominant language, for twelve it was Spanish, and twelve came from bilingual families.

English was a fourth language for all of them because of their previous experience of learning French as the first foreign language. Three of the subjects were studying both French and English, but all the others had changed from French to English when they began secondary education. The former had received approximately 500 hours of instruction in French and the latter 320 hours, on average. On the basis of the amount of instruction that the learners had had in English, subjects were distributed into two groups: one with learners who had received approximately 190 hours of instruction in English (average age: 16), and one with learners who had received approximately 400 hours of instruction (average age: 18.9). Independent language tests showed statistically significant differences in English proficiency between the two groups (see Muñoz, 2006).

The learners interacted with six previously unknown female researchers in an oral task. The researchers were all competent speakers of Catalan, Spanish, and English; half of them had Spanish as the first language, and half of them had Catalan. Although they addressed learners in English, it was obvious from the situation that they were Catalan-Spanish bilinguals, which may have allowed learners to be in a multilingual rather than a monolingual mode (see Grosjean, 1997).

3.2. Instruments

The oral data that were used in this study were originally collected as part of the BAF (Barcelona Age Factor) project. Learners' productions in English

were elicited by means of a story-telling task in which learners were shown a series of six pictures and were asked to tell the story, as well as by a follow-up question in which the researcher asked them about the possible continuation of the story. The pictures depict a mother and her two children preparing sandwiches to be taken in a picnic basket, then the family's little dog getting into the basket while the mother is showing the children on a map the way to the place they are to go, the children saying goodbye to the mother, arriving in the country, and opening the basket and the dog coming out of it, and finally the children finding left only a few crumbs and the thermos. Because of their limited proficiency in English many learners produced descriptions of the pictures rather than a narration of the story. The task took place in the presence of the researcher and was embedded in an oral conversation, which resulted in frequent appeals for assistance to the researcher on the part of the learner, especially in the case of the less proficient learners. In a different session subjects answered a written questionnaire which included questions about their language learning histories and their use of Catalan and Spanish.

The recordings were transcribed into orthographical form and introduced into a computer file following the conventions of the CHAT programme of CHILDES.

3.3 Procedure

The analysis focuses on the uses of the previously learnt languages, Catalan, Spanish and French, in the learners' productions, both when they were telling the story and when they were addressing the researcher directly.

Two main categories were distinguished in the analysis of the story-telling productions: lexical transfer, referring to the use of a word³ from another language, and code switching, referring to a complete shift to another language for a clause⁴ or a long expression. The category of lexical transfer was sub-divided into two: borrowings and foreignisings (Poulisse, 1990). Borrowings refer to the

³ A few noun phrases (art + N) also appeared in Catalan or Spanish. These were divided into words and each word counted as a unit.

⁴ In three occasions learners produced a noun phrase in English that referred to the character in the picture, but then were unable to express what that character was doing or experienced in that particular picture. These predicates were coded as instances of code switching:

and the children [*long pause*] *van al zoo*

use of lexemes from the L1 or any previous language that are used without any type of phonological or morphological adaptation. Example 1 illustrates a borrowing from Catalan. Foreignisings refers to lexemes in interlanguage with phonological and/or morphological adaptation, as in example 2, in which the Spanish word *cesto* has been morphologically adapted to English:

1. they go to the *camp* (Cat.) I think (2.8.)⁵
[they go to the countryside I think]
2. when she open the the *cest* (1.16)
[when she opens the basket]

Learners sometimes code switched into Catalan and Spanish producing complete sentences, as in example 3:

3. no sandwiches
se lo ha comido el perro (Sp.)(1.3)
[the dog has eaten it]

Code switched utterances addressed to the interlocutor in Catalan or Spanish were sub-categorised into three types: explicit appeals for help, clarification requests, and meta-comments. Explicit appeals for help usually include a word in Catalan or Spanish and a question about the English equivalent (similar to the *insert: explicit elicit* category in Hammarberg, 2001), as in example 4:

4. the children er *com es diu "pujen"* (Cat.)? (1.9)
[the children er how do you say "climb"?)

Example 5 illustrates a clarification request after the researcher asked a question concerning the continuation of the story:

5. R: and what are they going to do now?
L: *cóm* (Cat.)?
[what?]

Meta-comments, as in Hammarberg (2001: 26), consist of comments on the communicative situation, as in example 6, or on the learner's inability to complete the task in English:

6. cut the ... *què he de fer? És que estic dient coses pero no ..* (1.15)
[cut the ... what do I have to do? I am saying things but I don't...]

⁵ The first digit indicates whether the learner belongs to group 1 or to group 2. The second digit identifies the learner in the group.

4. Results

Table 1 presents all the instances of Catalan, Spanish and French use in the story-telling productions. The two types of lexical transfer, borrowings (B) and foreignisings (F), have been distinguished according to the source language. In a few cases it was not possible to determine whether the source language was Catalan or Spanish and these items appear under an indeterminate category (C/S). The source language of code switched utterances was always one of the languages shared with the researcher.

Table 1. Transfer and code switching in the story-telling productions

	Transfer								Code switching	
	Catalan		Spanish		C/S		French		Cat	Sp
	B.	F.	B.	F.	B.	F.	B.	F.		
Group 1 N = 19	71	0	67	3	4	4	9	1	18	7
Group 2 N = 10	0	1	5	0	3	1	0	0	0	0

The main sources of cross-language transfer in these data are Catalan and Spanish, with similar proportions: 71 words were supplied by Catalan and 75 by Spanish. In the indeterminate category (C/S) out of 12 words there are seven tokens of interjections used as gambits which are used in both Spanish and Catalan, although in the latter language they are borrowed words from Spanish (a consequence of the intense language contact between the two languages and the status of dominant language of Spanish). As expected, there is high inter-subject variability, with one subject producing as many as 19 Catalan borrowings, another subject producing 18 Spanish borrowings, and a third subject producing 10 Spanish borrowings.

French is the source language of only 10 items, which were all produced by 3 learners (one learner providing 8 of them). These were not the learners who at the time of testing were taking French. In addition, it is to be noted that an influence from French could also be seen in the use of some English-French cognates (i.e. *boutique*, *voyage*) that were not used in the same task by other students of English with the same or even higher level of proficiency who had not studied French previously (see Miralpeix, in preparation). Example 7 illustrates borrowings from French and from Spanish in the same production.

7. dog eating the sandwich y (Sp.) the *garçon* (Fr.) *pues* (Sp.) don't *no tiene* (Sp.) xxx (1.10)

[the dog is eating the sandwich and the boy well does not have xxx (unclear)]

Adapted words are not frequent in the data. In example 8 the source language may be both Catalan (*preparat*) and Spanish (*preparado*). Example 9 shows a word adapted from French (*table*) with probable influence from Catalan (*taula*) and Spanish (*tabla*: plank).

8. the mother has has *preparated* the the dinner (1.4)
[the mother has prepared dinner]

9. una tabla and and window (1.3)
[a table and a window]

Both are illustrations of the possible contribution of more than one source language to an interlanguage construction. The next example illustrates the combination of a possible intralingual error and interlingual influence.

10. and I'm a *perruchet* (Fr.) *ay como se llama hmm bueno periquito* (Sp.) (1.5)
[I have a parakeet oh what's it called mm well parakeet (in Spanish)]

In this example the form *perruchet* can be seen as an intralingual error in French, a merge of *perruche* (parakeet) and *perroquet* (parrot), which could also have an influence from the Catalan diminutive suffix *-et*, and from the structure of the target word *parakeet*.

In addition to those productions that formed part of the story elicited by the pictures and the researcher's follow-up question, these data also contained code switched utterances that were addressed to the researchers in Catalan or Spanish. They are displayed in Table 2 and distributed into three categories. As before, there are many more instances of code switching into Catalan than into Spanish (29 vs. 14).

Table 2. Code switched utterances addressed to researcher

	Explicit appeals for help		Clarification requests		Meta-comments	
	Cat.	Sp.	Cat.	Sp.	Cat.	Sp.
Gr. 1 N = 19	17	5	8	2	3	2
Group 2 N = 9	0	4	0	0	1	1

In order to address the issue concerning the relative influence of the learners' family or dominant language and the possible relationship with the different tendencies observed above, i.e., that subjects tend to borrow words from both

Catalan and Spanish in similar proportions but code switch into Catalan in much higher proportion, Table 3 displays the distribution of the different types of cross-linguistic influence in relation to the learners' dominant or family language. The two types of code switched productions, those appearing inside the story or picture description and those addressed to the researcher, have been merged here because both followed the same pattern.

Table 3. Learners' choice of source language for transfer and code switching

	Transfer			Code switching		
	Only Cat.	Only Sp.	Both	Only Cat.	Only Sp.	Both
Cat-dominant n = 5	5	0	0	4	0	0
Sp-dominant n = 12	1	9	2	2	3	2
Both n = 12	2	3	5	4	3	3

Out of the subjects who borrowed lexical items from Catalan or Spanish (with or without adaptation)⁶, those who were Catalan-dominant only used Catalan as the supplier language. Spanish-dominant learners borrowed lexical items mostly from Spanish, while those who were considered family bilinguals tended to borrow from both languages. When code switching at the clause level, Catalan-dominant learners only used Catalan, while Spanish-dominant and family bilinguals code switched into one, the other or both languages in similar proportions, though with a slight preference for Catalan. In fact, three of the subjects who transferred words only from Spanish and one subject who transferred words from both languages, code switched only into Catalan.

An analysis of the language(s) used by the six researchers shows that all of them used mostly Catalan, when not addressing learners in English, but it also shows some accommodation to the interlocutor. Three of them changed back and forth if the learner used Spanish only or mostly, while two used Spanish in two cases in which learners only used that language in the session.

⁶ Two of the learners did not present any instance of transfer, and seven did not code switch into Catalan or Spanish.

The third research question enquired about the proportions of content and function words borrowed from the languages known by the learners. The analysis of the transferred items into content and function words is presented in Table 4, distributed per source language. In some cases both Catalan and Spanish could be the source language of the borrowed word.

Table 4. Content and function words

	Content					Function				
	Cat.	Sp.	C/S	Fr.	Total	Cat.	Sp.	C/S	Fr.	Total
Gr. 1 n = 19	34	34	4	4	76	37	36	4	6	83
Gr. 2 n = 1	1	2	1	0	4	0	3	3	0	6
Total	35	36	5	4	80	37	39	7	6	89

As Table 4 shows, the number of function words, in both Catalan and Spanish, is higher than that of content words. More than half (53%) of the function words that appear in these data are clearly unintentional and characteristic of oral discourse; of them 44 % correspond to the use of *y*(Sp)/*i*(Cat) (and), and 29% correspond to uses of *bueno* (well), used as a filler. Ringbom (2001) comments that the frequent use of words such as *and*, *but* and *although* in language switches in speech are due to the little attention that is paid to links between major clause elements. Also Faerch and Kasper (1986) report the frequent use of gambits and the use of *jo* (yes) in Danish (L1) by English learners, and similar cases were observed by Poulisse and Bongaerts (1994) in their corpus of Dutch learners of English. Although the distinction between intentional and unintentional L1/L2 use has not been made in the present study, there is some evidence that whereas learners often resorted to Spanish or Catalan intentionally to borrow content words to solve a lexical problem, many of those function words were unintended. For example, all of the explicit appeals for help addressed to the interlocutor (in Table 2) asked for content words. In contrast, many of the function words that appeared in Catalan or Spanish corresponded to words in the learners' lexical repertory (i.e. yes, no, and). In some cases the evidence that a specific English function word was in fact available is clear, as when learners used an article in Spanish or Catalan to precede a Spanish or Catalan noun, after producing an English article but failing to retrieve the English noun (example 11 is one of the four instances in these data, which were excluded from the final counting because they are not strictu sensu a case of borrowing).

11. look the .. *la la cesta* (Sp.) (1. 5)
[look in the basket]

Finally, the fourth research question was concerned with the relation between learners' proficiency level and cross-linguistic influence. Learners' proficiency level is a clear determinant of the frequency of transfer in these data. All subjects from the lower proficiency level group presented at least one instance of transfer, and up to a maximum of 19 in one case. Out of the 10 subjects from the higher proficiency level, only 7 were observed to transfer and never more than two lexical items. The ratio of transfer per subject in the lower proficiency level group is 8.4 and in the higher proficiency level group is 1.0. In addition, only learners from the lower proficiency group used code switched productions at sentence level (with a ratio of 1.3).

5. Discussion

The first research question asked about the influence of the learners' three languages: Catalan, Spanish and French. Transfer from French, both without and with adaptation is very low, and the L2 status of French, that is, the learners' perception that French shared the status of foreign language with English, did not seem to play an important role in these data. Nevertheless some of the English learners in the less proficient group produced some French borrowings. A more subtle type of cross-linguistic influence from French can also be seen in the occurrence in these data of relatively infrequent English-French cognates. Interestingly, the three learners who were having continued exposure to French through instruction did not present any instance of transfer from that language, so that recency of use does not appear to be the determinant factor here. However, it may also be that the limited proficiency level of these learners in French did not foster transfer. As de Bot (2004: 24) suggests, in a multilingual lexicon a minimum level of proficiency/activation is needed to have words from a language play a role in the selection process. In the case of French words, their level of activation must have been too low to enter the competition.

Learners borrowed mostly from Catalan and Spanish. Catalan-dominant learners borrowed only from Catalan. Spanish-dominant learners most often borrowed from Spanish, and family bilinguals tended to borrow from both. In general, however, the proportions of borrowings from one or the other language are very similar. Language distance does not seem to play a role here, and neither of the two languages is felt to be, or indeed is, closer typologically to English.

However, the use of Catalan and Spanish follows a different pattern in the case of transferred words and in the case of code switched utterances. Learners code switched into Catalan with much higher frequency than they did into Spanish, and some showed a tendency to transfer lexical items from Spanish but to recur to Catalan when producing clauses in a language other than the target language. This pattern is found for both code-switched productions inside the narrative and for productions addressed to the interlocutor.

The preferential use of one or the other language for code switched productions and for lexical borrowing in these learners may be related to different stages of the speaking process within the framework of De Bot's (1992) adaptation for a bilingual speaker of Levelt's Speaking model (1989) (see also De Bot, 2004). Code switched utterances addressed to the interlocutor correspond to the intended, situationally motivated switches in Giesbers's (1989) classification, and to the pragmatically functional language switches distinguished by Williams and Hammarberg (1998). They seem to be motivated by contextual factors: the school setting and the interlocutor. Catalan is the language of the school and, with a few exceptions, exchanges with teachers inside and outside the classroom take place in that language. In that sense, Catalan is also the language that is more frequently used by the researchers (who were probably assimilated to teachers in these learners' perceptions) in the course of the interview in which the picture-elicited task is embedded. These factors influence language choice, although whether these learners are necessarily aware of making an intentional choice in each case is not so clear (see Poulisse and Bongaerts, 1994: 37). In De Bot's (1992) bilingual model, the choice of the language for code switched utterances is determined in the conceptualizer on the basis of information from the discourse model (the intention to use a specific language is then relayed to the system generating lexical concepts and, in the 2004 version of the model, to a language node as well, which informs all relevant components subsequently). In the situation studied here, the learners' knowledge of the world and of the speech situation motivates the preference observed for code switching into Catalan when addressing the interlocutor.

In contrast, borrowings of lexical items take place in the formulator component when learners cannot find the lexical item needed (one that matches the characteristics in the speech plan). De Bot's (1992) model assumes that the two languages of a bilingual are activated in order to account for fluent and frequent language switching (at word or sentence level) (and De Bot's 2004 model extends this assumption to multiple languages). Green's (1986) idea of different levels of activation may be adopted to explain the characteristics of the learners' productions in the present study too. While in this situation for Catalan-domi-

nant subjects Catalan seems to be much more activated than Spanish, for many Spanish-dominant and family bilinguals both languages seem to have similar degree of activation, with slight differences due to their language dominance and language use patterns. The degree of language activation determines language selection, but also certain words may be more activated in one language than in the other, for learners are observed to borrow from different languages in the same utterance. At this level contextual factors may be less determinant of language selection than at the conceptualizer level, in accordance with the higher degree of automaticity of processes at the formulator level. In Levelt's model greatest attention is paid to conceptualizing and some attention is paid to the feedback mechanisms—which are assumed to intervene when learners experiment lexical retrieval problems because of lack of proficiency, as argued by De Bot (1992:14)—, while the remainder, including unproblematic lexical retrieval, function without conscious control.

Code-switched utterances that are part of the narrative are inserted at points in the story production in which the learner is made aware of serious difficulties involving more than the retrieval of a lexical item. In those cases the problem encountered seems to lead to a reformulation of the speech plan, and hence greater attention is paid to language choice. As before, knowledge of the situation motivates a greater use of Catalan in those switches than in borrowings. While alternative explanations from different models for L2 production are clearly possible (see for example Poulisse and Bongaerts, 1994; Dewaele, 2001), a difference in the degree of attention paid when borrowing words or when code switching (both when addressing the interlocutor and when changing the speech plan because of problems in the target language) seems to adequately account for the different patterns found in this study.

It is interesting to note that a very similar pattern was found by Cenoz (2003) in her study of Spanish (L1)-Basque (L2) learners of English. In that study, however, the preferential use of Spanish in transfer lapses, in contrast to the use of Basque in interactional strategies, was explained in relation to typology or language distance. The fact that neither of the two languages, Catalan or Spanish, is typologically close to English rules out the possibility that language typology or psychotypology may explain the pattern found here.

The third research question asked about the proportion of content and function words that were borrowed from the learners' previous languages. In this study learners borrow slightly more function than content words. As argued by Poulisse and Bongaerts (1994), function words are more frequent and hence require less activation than content words. In addition, the beginning learners in this study, as in Poulisse and Bongaert's (1994) study, may have paid more atten-

tion to content words, which convey more meaning, and may not have had enough attention to spare for accessing and monitoring function words. This is also clear in the present data, since students from the higher proficiency group are seen mostly to transfer gambits, which may be even more automatically produced than other function words. However, when those are excluded the difference between content and function words disappears, and hence the results do not differ much from previous results from written data from younger Catalan-Spanish bilingual learners of English, (L3) who transferred content and function words in similar proportions (Navés, Miralpeix and Celaya, 2005). As suggested before, the fact that Poulisse and Bongaerts excluded intentional borrowings, which may be mostly content words, may account for the large difference found in their data between the two types of words.

The present study also provides evidence to confirm the general finding that the type of cross-linguistic influence studied (i.e., lexical borrowings and code-switching) is more frequent among less proficient learners (Möhle, 1989; Ringbom, 1987; Poulisse, 1990; Navés, Miralpeix and Celaya, 2005). The students with lower proficiency level in this sample present more words that are transferred from their previous languages and more code switched utterances than students with higher proficiency level. In most cases these phenomena could certainly be considered instances of what Kellerman (1991) called “compensatory strategies”. In addition, even when learners know the target word,⁷ its level of activation will be lower than that of an equivalent word in the other language(s), which may result in transfer phenomena as well, as in the case of gambits or fillers. The mixing results observed in research on the influence of proficiency on cross-linguistic influence may be partly a consequence of language modality (oral vs. written), since beginning learners’ oral language will contain more unintentional switches than more advanced learners’ speech (Poulisse and Bongaerts, 1994).

The findings of the present study are related to the area of cross-linguistic influence and interaction in multilingual speakers. They have provided evidence that confirms previous research results concerning the distribution of content and function words in transfer, as well as the influence of target language proficiency on the amount of transferred words and code switching. Cross-linguistic influence from a previous third language has been evident but not strong. Different tendencies to use Catalan or Spanish have appeared as a result of language dominance and individual differences. A preference for Catalan, however,

⁷ See Ellis (1994: 215) for a detailed view of what learning a word may entail.

has been observed in code switches when the language has been selected on the basis of an appreciation of contextual factors. Although this study has not approached cross-linguistic influence phenomena on the basis of their intentionality⁸, further research on these data from that perspective may be interesting. The analysis of this particular language constellation has highlighted the multiple possibilities for the interplay of languages in multilingual learners.

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⁸ In the absence of introspective (or retrospective) data, assuming intentionality or not may imply risky decisions on the part of the analyst.

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