

The evolution of language acquisition in immigrant students in Catalonia: The role of the home language

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Abstract

Introduction. The development of immigrant students' language proficiency is one of the main challenges facing education professionals today. Our study was a longitudinal analysis of Catalan and Spanish language acquisition.

Method. Participants were 72 immigrant students (27 Spanish speakers and 45 non-Spanish speakers) enrolled in compulsory secondary education in Catalonia (Spain). Two different instruments were applied: a sociolinguistic questionnaire and a parallel psycholinguistic test in Catalan and Spanish language.

Results. Results indicate that the socioeducational context favors acquisition of both languages, and furthermore, it tends to equalize knowledge of these languages. Similarly, the home language variable lost its importance, as significant differences between Spanish- and non-Spanish speakers were not found.

Conclusions. Beyond the connotations of language proficiency in the school context, these results may be an indication of this group's progressive adaptation to the host society. Furthermore, the results from Spanish- and non-Spanish speakers suggest that the Catalan context may diminish the initial significance of immigrant students' home language.

Key words: Longitudinal study, language proficiency, immigration, home language, Spanish-speaking

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La evolución del conocimiento lingüístico del alumnado inmigrante en Cataluña. El papel de la lengua familiar.

Resumen

Introducción. El desarrollo del conocimiento lingüístico del alumnado inmigrante es uno de los principales retos a los que se enfrentan actualmente los profesionales de la educación. Nuestro trabajo analizó longitudinalmente la evolución lingüística catalana y castellana.

Método. Un total de 72 alumnos inmigrantes (27 hispanohablantes y 45 no hispanohablantes) escolarizados en Educación Secundaria Obligatoria de Cataluña (España). Para ello se aplicaron dos instrumentos diferentes: un cuestionario sociolingüístico y una prueba psicolingüística paralela en lengua catalana y castellana.

Resultados. Los resultados indican que el contexto socio-educativo favorece la evolución de ambas lenguas y, además, tiende a homogeneizar dicho conocimiento. Asimismo, la variable lengua familiar pierde cierta relevancia al descartarse diferencias significativas entre hispanohablantes y no hispanohablantes.

Conclusiones. Más allá de las connotaciones de la evolución del conocimiento lingüístico en el contexto escolar, los resultados nos pueden estar indicando la adaptación progresiva de este colectivo a la sociedad de acogida. Es más, los resultados entre hispanohablantes y no hispanohablantes nos permiten hipotetizar que el contexto catalán podría estar disminuyendo el peso que en un principio pudiera tener la lengua familiar de los estudiantes inmigrantes.

Palabras clave: Estudio longitudinal, conocimiento lingüístico, inmigración, Lengua familiar, hispanohablante.

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Introduction

The migratory dynamics of the last decade have modified the sociodemographic situation of Spain. Despite the decline in immigrant population observed in 2013 (by 9.8%), the number of foreigners in Spain as of 1st January 2014 was 5,000,258, or 10.7% of the total population (INE, 2014). These figures place Spain as the country in the European Union with the second-highest volume of immigrants (Eurostat, 2013). Consequently, the educational system has been especially affected. The Ministry of Education, Culture and Sports (2014) estimated that the number of foreign students enrolled in non-university education during the academic year 2013-14 at 731,167, representing a 71.7% increase over academic year 2001-02. The troubling aspect of this situation is that foreign children enter the educational system with few or no language skills in the language(s) of the school. The close connection between language skills and academic performance makes this a special concern (Cummins, 1981; Licón Khisty, 1992; Huguet, 2009).

With this context, it is appropriate to examine the evolution of immigrant students' language proficiency in the host society. The peculiarity of the Catalonian context, due to its bilingual education and the migratory processes of recent years, make Catalonia a living laboratory for carrying out this type of research.

The Catalonian context

Catalonia, with 1,085,976 foreigners (14.5% of its total population) is the region of Spain with the greatest number of immigrant citizens (ahead of Madrid and the Valencia region) (INE, 2014). As in other Western societies (Cummins, Brown & Sayers, 2007), family reunification processes, along with children born in the host society, have transformed the educational system. For the academic year 2012-13, the Ministry of Education, Culture and Sports (2013) estimated a presence of 140,855 immigrant schoolchildren in regular compulsory education in Catalonia. We must point out that, while these schoolchildren have many different origins, the highest percentage (over 35%) come from Latin American countries, and their home language (L1) usually coincides with the official language of all Spain, that is, Spanish. This circumstance is unique in comparison to the immigrant situation in other European countries, Canada or the USA, although it does not make the Latin American group any less varied and heterogeneous than any other human group. And if this aspect is worthy of

note in monolingual societies, it plays a more important role in Catalonia, where it falls under the parameters of bilingual education.

Since 1978, the Spanish Constitution officially recognizes Catalonia as a bilingual context and guarantees the right of citizens to receive an education in both of their official languages, Catalan and Spanish. This fact, together with the Language Standardization Act of 1983, prompted the application of language immersion programs (programs for home-to-school change of language) and maintenance programs (keeping up one's home language). Both types of programs, still in use, aim for thorough mastery of Catalan, the language of Catalonia and the language normally used for learning throughout one's education, and for equivalent proficiency in the Spanish language (Vila, 1995). But one of the most characteristic peculiarities of the new situation is how it contrasts with the traditional bilingual differentiation of Catalonian society (Catalan speakers and Spanish speakers). While positive results were obtained from this approach in the 1980s and 1990s (Arnau, 2003; Vila, 1995), with the migratory phenomenon, these accomplishments are no longer so evident (Consell Superior d'Avaluació del Sistema Educatiu, 2010). Recent studies in this area show that immigrant students' language skills in Catalan and Spanish, regardless of their native language, are quite inferior to what would be expected at their chronological age (Huguet, 2008, 2014; Huguet, Chireac, Navarro & Sansó, 2011; Navarro & Huguet, 2010; Navarro, Huguet, Sansó & Chireac, 2012). This in turn translates into much higher rates of scholastic failure than in their native peers (Huguet & Janés, 2013; Huguet & Navarro, 2006; Huguet, Navarro & Janés, 2007; Navarro & Huguet, 2005; Huguet, Chireac, Lapresta & Sansó, 2011).

Language proficiency of immigrant students: the current state of affairs

Data similar to those mentioned above may be observed in the English-speaking context (Schugurensky, Mantilla & Serrano, 2009; Slama, 2012; Suarez-Orozco & Suárez-Orozco, 2008). In this respect, different analyses confirm that despite the rapid acquisition of conversational fluency, more than five years are required in order to match the language proficiency of their native peers (Collier, 1987; Cummins, 2001; Hakuta, Butler & Witt, 2000; Ramírez, 1992; Thomas & Collier, 1997).

Although few in number, there have been studies in Catalonia that look into this same question. Studies carried out in the *Baix Empordà* area with 49 Moroccan students (Maruny & Molina, 2000), and the study by Huguet, Navarro, Chireac and Sansó (2013) with a sample of

341 native students and 185 immigrants enrolled in the final year of secondary education, point to the variable *length of stay* as decisive in achieving sufficient language proficiency to reasonably meet the demands of compulsory schooling. The authors conclude that, while the language skills of immigrants are significantly lower than those of their native peers, this is more marked when there has been a shorter length of stay in the host society.

Along these lines, Oller and Vila (2011) observed that the socio-language environment (Catalan or Spanish), the length of stay and the L1 were important factors in the results they obtained with a sample of immigrant students in primary education, where Arabic was the L1 for 131 pupils, Romanian for 44 and Spanish for 221. Specifically, native Arabic-speaking schoolchildren obtained the lowest results in both Catalan and Spanish, when compared to the other language groups.

Elsewhere, in studies by Vila, Canal, Mayans, Perera, Serra and Siqués (2009) and by Vila (2008), with 567 native and 434 nonnative pupils, home language plays a dominant role in the level of school language proficiency (Catalan and Spanish). Furthermore, the latter study reports that Spanish-speaking students performed at higher levels than students whose L1 was Soninke or Arabic (Vila, 2008). Along these lines, Chireac, Serrat and Huguet (2011) studied the influence of L1 Romanian in certain morphosyntactic aspects of L2 proficiency (Catalan and Spanish). They worked with a sample of 8 Romanian students, 8 Ukrainian and Bulgarian, and 8 native students, all of them students in 2nd and 4th year of compulsory secondary education. This study suggests that students with L1 Romanian, despite their language proficiency in a Romance language similar to the languages used at school, show difficulties comparable to other groups with different native languages. In other words, the proximity of the languages considered (Romanian, Catalan and Spanish) did not seem to facilitate L2 learning when compared to the group of immigrant students in the same cultural setting whose home language is not a Romance language.

It is evident that other aspects may influence academic outcomes in this group, whether in their general education (Alonso-Tapia & Simón, 2012; Santos-Rego, Godás-Otero & Lorenzo-Moledo, 2012) or particularly in language proficiency (Cummins, 2002). Such aspects would include attitudes toward the languages in use, a communicative approach in language teaching, the sociocultural level of the families, language integration efforts and school and social adaptation (Generalitat de Catalunya, 2004), students' subjective perceptions of the

school institution and teachers' perceptions of these students (Siqués, Vila & Perera, 2009), etc.

Finally, focusing on the latter, Jasinskaja-Lahti (2008) analyzed longitudinally three different dimensions of immigrants' long-term adaptation (psychological, sociocultural and socioeconomic adaptation). The 282 adults surveyed were immigrants in Finland, originally from countries of the former Soviet Union. Of the three dimensions of adaptation that were assessed, the sociocultural dimension -- measured as aptitude for understanding, speaking, reading and writing in Finnish -- was the most significant long-term predictor of results in the other adaptation dimensions (socioeconomic and psychological). In particular, the better the initial mastery of the Finnish language, the better were socioeconomic and psychological adaptation after 8 years of residence.

Objectives

Our study focused on: (1) describing the evolution of Catalan and Spanish language acquisition of immigrant students enrolled in compulsory secondary education (ESO) in Catalonia, and (2) analyzing the influence of the home language variable (Spanish speaking and non-Spanish speaking) in language acquisition progress in Catalan and Spanish.

Method

Participants

We worked with a group of young immigrants enrolled in five secondary schools in Catalonia (Spain). Specifically, the sample was made up of 72 immigrant schoolchildren, 32 boys and 42 girls, between the ages of 13 and 15 years ($M = 13.67$, $SD = .69$), when enrolled in 2nd year of secondary school, and between the ages of 15 and 17 years ($M = 15.67$, $SD = .69$) when enrolled in 4th year. In order to ensure minimum L2 knowledge, students who had spent less than one year in the host country were excluded.

As for their place of origin, 7 different geographic regions were represented: 27 Latin Americans, 12 North Africans, 9 from the rest of Africa, 8 from the European Union, 9 from the rest of Europe, 6 from Asia and Oceania, and 1 from North America. Regarding their mother tongue, 18 different home languages were detected (see Table 1).

Table 1. Distribution of participants as a function of their home language

Home language	N
German	1
Arabic	9
Bulgarian	1
Mandarin Chinese	3
Spanish	27
French	4
Fula	3
Greek	1
Hungarian	1
Italian	1
Mandinga	3
Portuguese	2
Punjabi	1
Romanian	5
Sarakole or Soninke	2
Tamazight	5
Ukrainian	2
Udru	1
Total	72

Instruments

In order to determine students' home language, a sociolinguistic questionnaire that had been successfully used in earlier studies in Catalonia was applied (Huguet, Janés & Chireac, 2008). We decided to use a questionnaire created by the Catalan Teaching Service (SEDEC), which was designed to be applied with students in Catalonia, and which had been successfully used with native bilingual students, as well as in immigrant educational contexts. This base model was redrafted and adapted to the current sociolinguistic and curriculum characteristics of newly arriving students enrolled in secondary education schools in Catalonia. For the final version of the survey, reliability was calculated using the test-retest technique, with a three-month interval between the two applications, obtaining a significant correlation index $r = .70$ ($p < .001$).

On the other hand, aware of the debate surrounding the concept of language proficiency, and the problem posed by the measurement criterion in educational assessment, the decision was made to use standardized language proficiency tests, and not achievement tests. In other words, we assessed language acquisition and not the objectives of a specific year in school. When referring to language proficiency, many studies make the distinction between

communication skills and formal language skills. The first refers to the ability to process (both interpret and produce) meaningful verbal messages that are appropriate in a given situation; the second is more related to the ability to produce (and distinguish) formally correct expressions. Although ideally one would study language in natural contexts, our study used tests that analyzed formal, preestablished aspects, even though certain subtests had a more open nature. In any case, the skills we sought to test were not limited to those acquired through scholastic learning, but also include skills that pertain to the students' language acquisition in a broad sense.

With these considerations as our basis, we finally decided to assess knowledge of Catalan and Spanish language using two tests that were designed and standardized by the Catalan Department of Education (Bel, Serra & Vila, 1993). The tests themselves contain 5 written and 5 oral language elements distributed in two different tests: one group test, made up of the written activities, and another individual test, covering the sections that measure oral language. See Table 2.

Table 2. Language skills assessed in Catalan and Spanish language

Type of test	Language skills
Group Test. Written Language	Oral comprehension Morphosyntax Spelling Written comprehension Written expression
Individual Test. Oral language	Oral expression: lexical-morphosyntactic Oral expression: organizing information Phonetics Reading Accuracy Reading Intonation

Results on each of the 10 subtests are represented as a score between 0 and 100, based on the the right and wrong answers given for each of the items. Based on the results, two additional indices are obtained: PG1 corresponds to the set of written subtests and PG2 refers to the set of both oral and written subtests. Test reliability was measured using the two halves method, and Pearson correlation indices fell between $r = .61$ and $r = .80$ (Bel, Serra & Vila, 1991).

Procedure

To begin, we contacted the Education Department in order to learn which secondary schools in Catalonia would be most appropriate for carrying out our study. Once these were identified, and they had agreed to participate, the sociolinguistic questionnaire and the proficiency tests in Catalan and Spanish were applied to all the immigrant students enrolled in the 2nd year of secondary education, at the five high schools (1 in Lleida, 1 in Tarragona, 1 in Barcelona and 2 in Girona).

Two years later, the five schools selected in the first phase of research were contacted again to inform them of its continuation, and to ask the school administration for the number of study participants who were still enrolled and who were now in the 4th year of secondary education. After obtaining this data, we determined the exact days for administering the tests. The language proficiency tests and the sociolinguistic questionnaire were applied on this occasion to the students who continued to be enrolled at the schools and who had thoroughly completed the first phase of the study.

In both the first and second research phases, the language proficiency tests were applied over three months. First, the different instruments were applied at the Lleida school, followed by the school in Tarragona province, the Barcelona school and finally, the two schools in Girona.

Design and data analyses

The *independent variables* controlled in this investigation were:

- 1) School year: 2nd year of secondary education for the first research phase / 4th year of secondary education for the second phase.
- 2) Home language: Spanish speaking / non-Spanish speaking.

The *dependent variables* were their proficiency in Catalan and Spanish languages.

In order to analyze language acquisition from a longitudinal perspective, it was necessary to define a *difference* variable. This variable was obtained from the mean scores in the first research phase and mean scores obtained two years later on the second application. Data processing of results was performed using SPSS for Windows, version 15.0. Specifically, descriptive statistical techniques and an ANOVA were used to establish comparisons between

the groups of participants. In order to determine whether the model fit the data, we used a probability criterion of .05 (Field, 2013). Finally, we further examined the effect size.

Results

The results are divided into two sections. The first section explores the evolution of language proficiency of Catalan and Spanish in the immigrant students, while the second section analyzes the influence of the home language variable on Catalan and Spanish proficiency in the two groups studied: Spanish speakers and non-Spanish speakers.

Evolution of Catalan and Spanish language proficiency of immigrant students enrolled in Secondary Education

In order to contrast the immigrant students' language proficiency in Catalan and Spanish between 2nd and 4th year of secondary education, we calculated the mean scores of the language proficiency tests applied during each research phase. Specifically, in both PG1 and PG2 indices there is a positive evolution in learning the Catalan language; between the first and second application we find an $F_{1,71} = 83.012$ ($p < .000$) with an effect size of $d = .538$ in PG1 and an $F_{1,71} = 59.072$ ($p < .000$) with $d = .571$ in PG2.

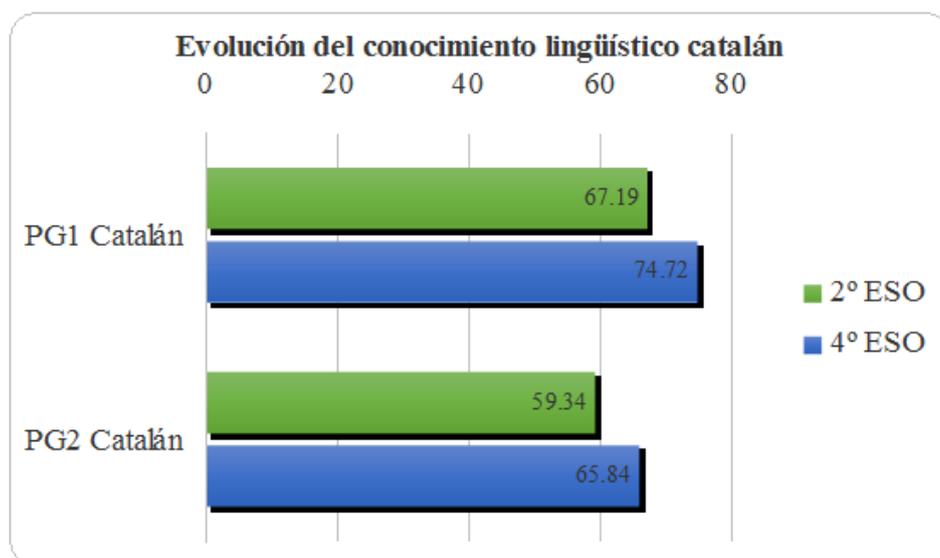


Figure 1. Evolution of PG1 and PG2 Catalan language proficiency between 2nd and 4th year of secondary ed. (ESO), mean scores

Results for *Spanish language* show a similar trend. Mean scores reflect a significant increase of Spanish language proficiency between the two research phases, with $F_{1,71} = 39.478$ ($p < .000$) and $d = .552$ in PG1, and $F_{1,71} = 11.096$ ($p < .001$) with $d = .320$ in PG2.

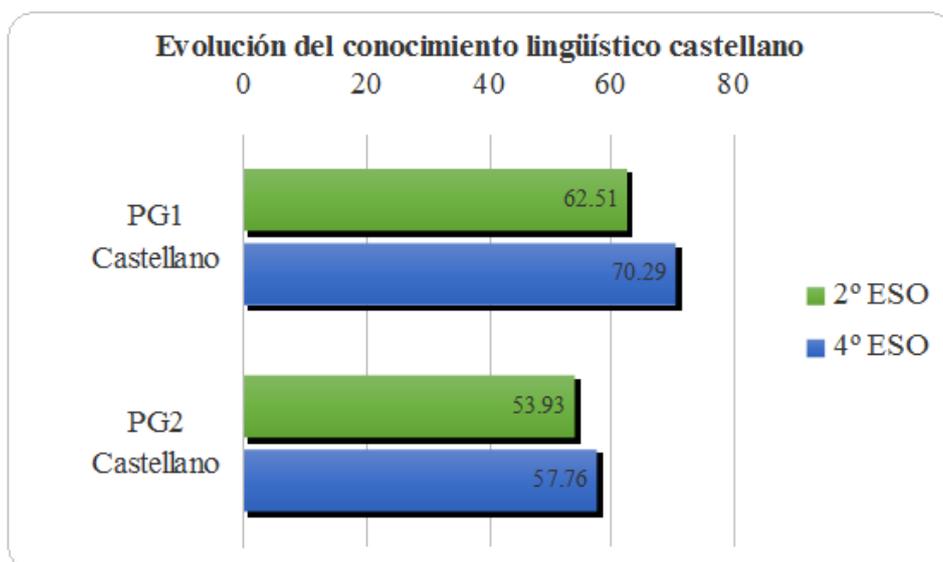


Figure 2. Evolution of PG1 and PG2 Spanish language proficiency between 2nd and 4th year of secondary ed. (ESO), mean scores

In any case, the results should not be interpreted without an analysis of the standard deviation. This analysis reveals that language proficiency becomes increasingly homogeneous (See Table 3).

Table 3. Standard deviation in the PG1 and PG2 indices in Catalan and Spanish language between 2nd and 4th year of secondary ed,

	Catalan language		Spanish language	
	PG1	PG2	PG1	PG2
2nd yr. Sec. Ed.	14.33	12.34	17.51	14.56
4th yr. Sec. Ed.	12.28	9.05	12.99	11.40

Evolution of Catalan and Spanish language proficiency of immigrant students enrolled in Secondary Education, as a function of whether they were Spanish speakers

In order to address this question, an analysis of variance was carried out to contrast the variables PG1 differences and PG2 differences in Catalan and in Spanish, between the group of immigrant students whose home language was Spanish, and those who had a different home language. Results show different trends in the two school languages. In Catalan language, the results confirm that immigrant students whose home language is Spanish tend to make greater progress. However, significant differences between the two groups were not established, with values of $F_{1,70} = 0.275$ ($p = .602$) and an effect size of $d = .127$ for PG1 differences and $F_{1,70} = 1.754$ ($p = .190$) with $d = .322$ for PG2 differences.

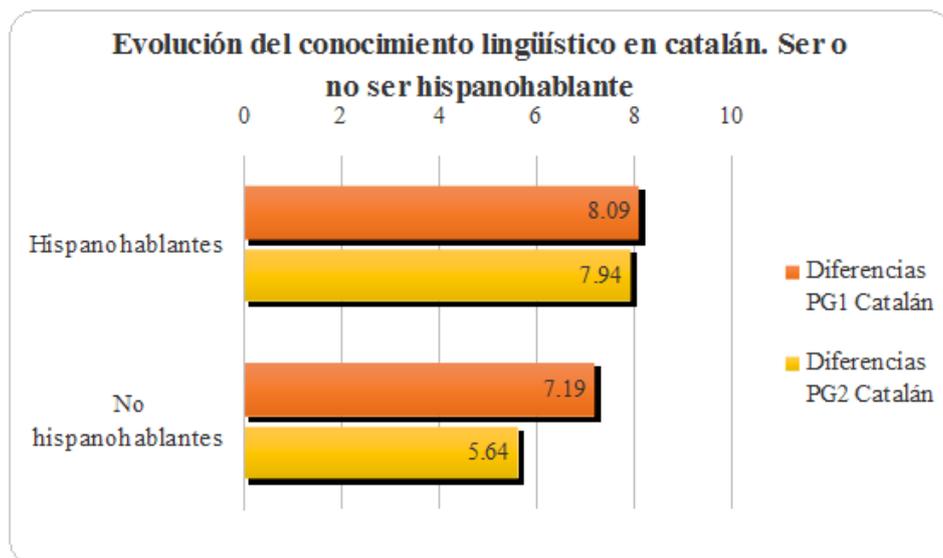


Figure 3. Evolution of Catalan language proficiency in PG1 differences and PG2 differences, between 2nd and 4th year of secondary education, as a function of whether they were Spanish speakers (*hispanohablantes*) (mean scores)

In *Spanish language*, the non-Spanish speaking immigrant group made greater progress than those whose home language was Spanish. However, once again we find no significant differences between the two groups, with values of $F_{1,70} = 3.951$ ($p = .051$) and $d = .483$ for Spanish PG1 differences and $F_{1,70} = 0.517$ ($p = .474$) and $d = .175$ for PG2 differences.

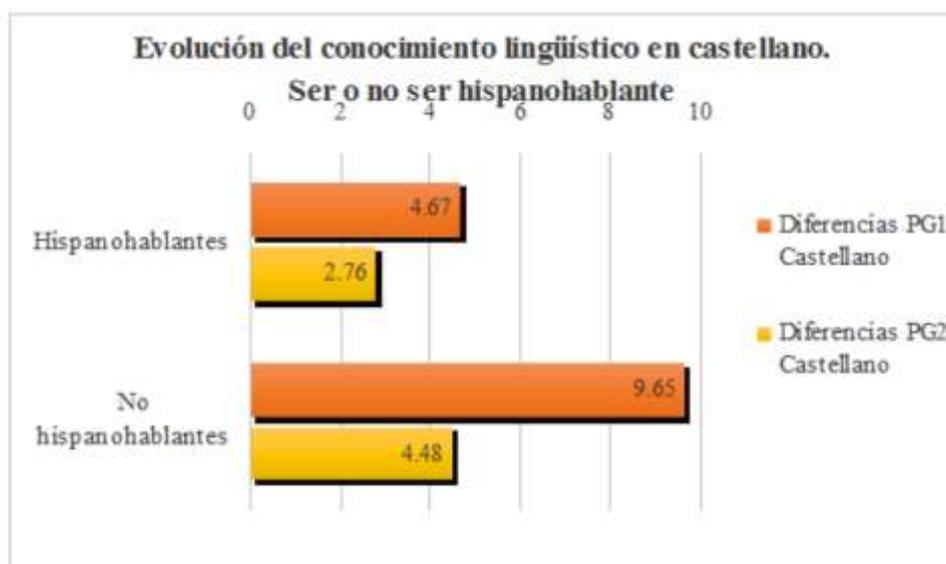


Figure 4. Evolution of Spanish language proficiency in PG1 differences and PG2 differences, between 2nd and 4th year of secondary education, as a function of whether they were Spanish speakers (*hispanohablantes*) (mean scores)

Discussion and Conclusions

In the present study, the two years that pass between 2nd and 4th year of secondary education prove to have a significant, positive influence on the evolution of Catalan and Spanish language proficiency, and furthermore, there is an equalizing effect in this proficiency. In other words, the passing of time, along with other factors that might include social and school integration, give rise to an increase in language skills and reduce the distance between the two languages assessed. As we indicated in the introduction, studies that analyze this topic area propose that immigrant students require long periods of instruction in order to match the language proficiency of their native peers. This has been so often confirmed (Cummins, 2001; Hakuta, Butler & Witt, 2000; Huguet, Chireac, Navarro & Sansó, 2011; Maruny & Molina, 2000; Thomas & Collier, 1997) that this evolution is defined today as a lengthy, complex construction process over time. This construction, in the words of Cummins (2002), varies according to the degree of motivation, the type of exposure to the second language, and the cognitive demands of this exposure.

This last factor is something we wish to examine more closely. In prior studies, Jasinskaja-Lahti (2008) pointed to language proficiency improvement as an indicator of adaptation to the new context, while Vila, Canal, Mayans, Perera, Serra and Siqués (2009) noted the close relationship between school adaptation and Catalan language acquisition. Similarly, the positive evolution observed in our study suggests that this progress in language acquisition most probably also indicates a process of adaptation to the host society. This conclusion quite likely if we consider that in the Catalan context there are initiatives like the Plan for Language and Social Cohesion (Generalitat de Catalunya, 2004), which might have some influence in all of this, in addition to the social and educational context in which immigrant students are immersed.

On the other hand, results on the evolution of Spanish speakers' and non-Spanish speakers' language proficiency allow us to hypothesize that the socioeducational context may be reducing the impact of the home language variable. This idea is upheld by the lack of significant differences between the two groups and languages assessed. In certain prior studies, the L1 variable is also mitigated when length of stay and adaptation to the context are also analyzed. Specifically, in this study we conclude that being a Spanish speaker is not a determinant of progress in Catalan and Spanish proficiency. But, aside from this verification, the two different trends are rather striking. While the non-Spanish speakers stand out in Spanish language progress, in Catalan the outstanding group are those whose home language is Spanish.

Both trends initially seem counterintuitive. One might have supposed a language advantage for the Spanish speakers, as compared to the other language groups, because they had mastery of one of the languages used for scholastic learning. And we refer to *mastery* and *supposed advantage* after Huguet (2014) observed that Spanish speaking immigrants did not match the level of Spanish language proficiency of their native peers, although they do usually surpass the immigrants who have a different home language (Navarro & Huguet, 2005). In similar lines, García Castaño, Rubio and Bouachra (2008) determined that students whose home language is Spanish may end up learning in lesser measure than those who have a different language. Moreover, Huguet, Navarro, Chireac and Sansó (2012), after analyzing the impact of the *length of stay* variable, concluded that the evolution of language proficiency as a function of this variable is low among Spanish speakers, while that of non Spanish speakers is much greater, because the latter start from a much lower baseline.

This last statement is quite logical if we relate it to the importance of prior knowledge of the languages used for learning. In our case, the more limited progress in Spanish proficiency among the Spanish speaking immigrants, as compared to the non Spanish speakers, would follow in line with this thesis. In other words, having a language background in one of the languages used at school influences the evolution of one's acquisition of that language; further acquisition is not as marked as in the rest of the language groups.

One of the most important theoretical instruments for explaining such conclusions is probably the Hypothesis of Linguistic Interdependence (Cummins, 1979). This hypothesis asserts that skills acquired in a given language (L_x) may be transferred to another (L_y) as long as there is adequate exposure to the second language as well as motivation to learn it (Huguet, 2009). In any case, the proximity or distance between the two languages (L_x and L_y) is another factor to be taken into account. While linguistic transfers between related languages are composed of purely linguistic and conceptual elements, in the case of distant languages, such transfers basically consist of cognitive and conceptual elements (Francis, 2000). Therefore, it is not surprising that in both cases there is positive evolution in Catalan language, despite observing somewhat greater progress in the Spanish speakers.

We must remember that the Catalan school system is organized to encourage the presence and treatment of the Catalan language at the different educational stages and moments, but additionally there are linguistic transfer processes between Spanish and Catalan in students with Spanish as their home language (Huguet, 2014; Oller & Vila, 2011), and also among the rest of the language groups (Huguet, 2008). In this sense, it is not unusual that the evolution observed in both Catalan and Spanish is somewhat greater when we only consider written language, than when oral language is included in the analysis. This observation seems consistent if we take into account the greater influence from one's literacy skills in his/her first language at the time when a second language is learned, more than the possible influence of merely oral skills in one's native language.

In conclusion, the results of our study point in two different but complementary directions. On one hand, there is the idea that passing through the educational system and social integration encourage the acquisition and equalization of Catalonia's two working languages. On the other hand, we find that the condition of being a Spanish speaker or non Spanish speaker, surprisingly, does not significantly impact this evolution.

Although we are aware of the limited sample size, the results presented here offer sufficiently revealing and innovative grounds for consideration when developing initiatives that would enhance the social and educational path of immigrant students.

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