

The effects of intensive naturalistic exposure for children in pre- and post-literacy development

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Abstract. This paper reports on a case study of the language acquisition of two children through intensive exposure and subsequent language loss after the immersion period. The informants experienced intensive language development through immersion in a new language (English) over a period of eight months. One of the main features under analysis is the fact that at the time of immersion one of the informants had developed no literacy skills in the mother tongue due to his early age (3.5), whereas the second subject (6.9) had developed literacy skills in the L1 before onset. The informants' linguistic development in their L1 and their advances in the L2 were analysed from a qualitative point of view, and quantitative data was gathered regarding the time of exposure to the L2. The analysis carried out in this study suggests that the previous development of literacy skills may play a key role.

Keywords: literacy, naturalistic exposure, bilingualism, children language development, immersion.

[es] Los efectos de la exposición intensiva en contextos naturales sobre el desarrollo lingüístico de los niños antes y después de su alfabetización

Resumen. Este artículo presenta un estudio de caso en el desarrollo lingüístico de dos niños mediante exposición continuada en un contexto de inmersión, y la consiguiente pérdida del lenguaje una vez concluida dicha inmersión. Los informantes tuvieron una experiencia de exposición continuada mediante inmersión en una lengua nueva para ellos (inglés) durante un periodo de ocho meses. Una de las principales características analizadas es el hecho de que al inicio de la inmersión uno de los sujetos no había desarrollado destrezas de lectoescritura debido a su temprana edad (3,5 años), mientras que el otro sujeto (6,9 años) ya disponía de destrezas de lectoescritura en su primera lengua antes de comenzar la inmersión. El desarrollo lingüístico de los informantes en su primera lengua (L1) y sus avances en la segunda lengua (L2) fueron analizados desde un punto de vista cualitativo, aunque también se recopiló información cuantitativa relacionada con la cantidad de tiempo de exposición. El análisis realizado en el presente estudio apunta a que el desarrollo previo de destrezas relacionadas con la lectoescritura puede desempeñar un papel importante en el desarrollo lingüístico posterior.

Palabras clave: alfabetización, exposición natural, bilingüismo, desarrollo del lenguaje en niños, inmersión.

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1. Introduction

The effects of learning context on L2 acquisition, and especially the impact of intensive exposure in adult language development have been widely studied in recent years (Collentine, 2009; Llanes, 2012; Muñoz, 2012; Regan, Howard & Lemée, 2009) and many other studies have dealt with the study of child language acquisition in permanent immersion (Bongartz & Schneider, 2003; Cummins, 2005; Kovelman, Baker & Petitto, 2008; McLaughlin, 2013; Paradis, 2007), but little research has focused on the effect of temporary naturalistic immersion experiences on children (Llanes & Muñoz, 2013; Serrano, Tragant & Llanes, 2012), probably due to the fact that children are assumed to overcome the linguistic challenge more easily than adults, and that it is generally more difficult to conduct individualised research with children outside the teaching context due to a number of methodological considerations. To start with, in the case of early language development research, there are plenty of standardized well established instruments to measure individual linguistic abilities among young learners (i.e. vocabulary measures, grammatical knowledge, linguistic/communicative competence, etc.), but it has proven difficult to design tasks that provide a comprehensive communicatively-oriented description of language development; additionally, close observation of children in a family environment is not always easily carried out. Furthermore, there are many sociocultural variables that cannot always be controlled in naturalistic contexts. The process of language acquisition in an intensive exposure situation is characterised by a number of factors that are complicated, if not immutable, due to individual constraints (quality and quantity of the exposure, infants' degree of maturity, contact with more than two languages, etc.) and social influence (social consideration of the languages, sociocultural and socioeconomic contexts, etc.).

2. Previous research

Intensive exposure in Second Language Learning has frequently been researched in order to analyse both the linguistic gains from experience (Muñoz, 2012) and also the acquisition of sociolinguistic competence (DeKeyser, 2007; Regan, Howard and Lemeé, 2009). However, what most research works in the field have in common is that intensive exposure experiences have been observed in the case of adolescent or adult learners who have been exposed to an experience abroad for a given period (Allen, 2010; Davidson, 2007, 2010; Dewey, 2004; Freed, So & Lazar, 2003; Freed, Segalowitz & Dewey, 2004). The effects of immersive education has also been widely researched from different angles (Fillmore, 1991; Fillmore, 2000; Lightbown, 2012; Mougeon, Nadasdi, and Rehner, 2010; Tedick, Christian and Fortune, 2011; White and Turner, 2005) but there has been little research in the case of language development during intensive exposure of children who have spent a period of time abroad with the intention of coming back to the original country and culture, i.e., temporary migration with a return to the home country.

The effects of intensive exposure, such as of study-abroad experiences, have been amply studied in the development of different domains, including oral production (Davidson, 2010; Freed, 1995; Lennon, 1990; Llanes & Munoz, 2009; Segalowitz & Freed, 2004), listening comprehension (Cubillos, Chieffo, and Fan, 2008; Dyson,

1988; Llanes and Muñoz, 2009), reading development (Davidson, 2010; Dewey, 2004); writing (Freed et al. 2003; Perez-Vidal and Barquin, 2014; Sasaki, 2009, 2014), fluency (Valls-Ferrer and Mora, 2013), pragmatics (Alcón-Soler, 2015; Taguchi 2011), and vocabulary acquisition (Dewey, 2008; Foster, 2009; Ife, Vives & Meara, 2000; Milton & Meara, 1995; Serrano, Tragant & Llanes, 2011). Research analysing non-academically oriented acquisition in naturalistic contexts is almost non-existent, as it would require, first, a search for informants in a non-academic setting, for which there is a less obvious existing network, and second, a combination of qualitative and quantitative research methodology based on case studies.

Research based on case study methodology in child language acquisition is of paramount importance because it allows researchers, and sometimes parents, to learn about and from personal experiences and draw conclusions that can be useful to different contexts and situations –learnings which may help families confronting a similar situation. Even if the results of qualitative-based research methodology need to be taken with caution as they cannot be easily extrapolated, they provide valuable insights which help us understand the social and cognitive processes that take place in child language development (Deuchar and Quay, 2000).

Case study methodology focuses on individuals and local situations and produces detailed data from a narrow but deep data source. This methodology is usually not interventionist and aims at catching the complexity of behaviour as it treats phenomena holistically (Sao Pedro, 2015). Cohen, Manion & Morriison (2013) argue that case studies are suitable to portray, analyse and interpret the uniqueness of real individuals. As regards bilingual education is concerned, Deuchar and Quay (2000) provide ample evidence on how to conduct this type of research and its implications for language development in bilingual contexts.

Some previous research into the effects of intensive exposure abroad engaging Spanish and English has involved child as well as adult informants and has compared the two groups in formal and informal learning contexts (Llanes, 2012; Llanes & Muñoz, 2013). These studies deal with pre-adolescents, aged 10 and 11, and are limited to only making use of accuracy tests which use error analysis to measure the linguistic gains of the experience. These two studies find evidence for the benefits of study abroad over and above at-home language experiences but, surprisingly, they fail to measure the quantity of exposure to the target language informants receive in the Study Abroad context, even in terms of hours of instructed learning.

As Llanes & Muñoz (2013, p. 66) point out: “Research on age effects in naturalistic language learning settings typically examines participants’ ultimate attainment in relation to their arrival age or age of immigration”, whereas the present study seeks to capture the linguistic and communicative gains, as well as actual language development following a holistic perspective; this is something which can only be appropriately scrutinised by means of case study methodology.

3. Research questions

In view of a particular sociolinguistic situation in which two children (aged 3.5 and 6.9) having Spanish as their L1, were deemed to experience an intensive exposure to English as an L2 for a limited period of time (8 months), data was gathered over a period of 22 months, during and after the intensive exposure, to try and

answer the following research questions related to the linguistic development of the informants:

- a) How did a period spent abroad, receiving intensive exposure to L2 English affect linguistic development, in the case of two Spanish children aged 3.5 and 6.9, during and after the exposure?
- b) How did the intensive exposure experience affect the L1 linguistic development of the two informants in the short term, i.e., during and after the exposure?
- c) Once the intensive exposure experience was finished, how did the informants L1 and L2 develop?

4. Design

Four research data collection techniques were used in this study. The first one (DC1) consisted of the direct and constant observation by the researcher of the two informants in different private contexts like home and family-related activities. An observation log was created with periodical entries. After the intensive exposure, entries were introduced on a weekly basis whereas in the period when the intensive exposure was taking place, entries in the research log usually took place on a daily basis. Two types of entries were recorded in the diary with the aim of keeping track of both informants' linguistic development in the L2; type (a) consisted of the informants' linguistic events of, namely transcription of spoken output that was noted down. The second type of entry, type (b) consisted of the observation of sociolinguistic or cross-cultural experiences that led to unexpected behaviours deemed worth noting down based on patterns of behaviour typically associated with one culture or language. An instance of a linguistic event, type (a), containing code-mixing, was for example:

(father) – What shall we do now? Shall we go home?

(son) – No, daddy, *quiero* stay here!

(Month 3 after arrival: informant aged 3.5 at the time of arrival)

An instance of a sociolinguistic behaviour (same informant), type (b), was:

The child in the playground at the beginning of the experience tries to explain something to his new English friend in his mother tongue (Spanish), and when he realises that he is not being understood, then he uses mimes.

A second procedure of data collection (DC2) consisted in recording linguistic interaction in the L2 with other members of the family. In spite of the fact that all family members shared a common L1 before the time of the intensive exposure, some family language planning was agreed, and the final decision was that after a short adaptation period the language used in the family would be exclusively English, that is, the language of schooling, and the language of the environment (TV, friends, playmates, neighbours, books available, etc.). This type of family language planning is frequent in situations where contact with more than one language is possible in the

family context, and there is a wish for language development in more than one language. As a way of example, in intercultural marriages it is quite common that each of the parents speaks one language to the child following the One Parent One Language Approach (Barron-Hauwert, 2004; Döpke, 1992; Jernigan, 2015; Lanza, 1997).

With the aim of recording the linguistic evolution of the two informants under study, audio recordings were made with a digital recorder Olympus WS-853, a small equipment that can be discretely be placed anywhere. These recordings kept track of linguistic development during interaction with other members of the family or, in the case of the elder subject, while reading in English. It was a common activity for the kids to do some out loud reading to their parents before going to bed, so the recorder was discreetly placed in advance somewhere close to the reader.

A third measurement procedure (DC3) consisted of vocabulary identification tests for both informants. For the younger subject, due to his early age, a mixed testing method was developed where the researcher counted how many words he knew receptively in spoken interaction, using different ways to identify the relationship between object and word, for example, showing pictures, pointing at things, etc.

For the elder subject an X-Lex 2000 vocabulary test was used (Meara & Milton, 2003). This type of test had previously been successfully used with young learners (Milton & Hopkins, 2006; Milton & Roghani, 2015; Orsoz, 2009) and personal communication with the developer of the test, Jim Milton (January 2015), also accounted for the convenience of using such assessment procedure.

A fourth measurement procedure (DC4) consisted of the distribution of questionnaires to the teachers in charge of the informants to find out about the children's advances not only concerning language development but also in relation to academic achievements and social interaction. These questionnaires were carefully designed to gather qualitative information about the specific research questions posed in this research and tried to elicit subjective data coming from the teachers who on a daily basis saw the children interacting with other children for seven hours a day. These questionnaires focused on identifying strengths and weaknesses in the children's performance in five skills. So the questionnaires were distributed three months after the beginning of the intensive exposure (end of month 3), at the end of it (end of month 8) with the English teacher, and six months after the return to the home country (end of month 14). For a reproduction of the questionnaire distributed in month 8, see appendix 1.

It should be pointed out that the aim of this research was not to compare proficiency development in both individuals but to follow up individual language prominent features of two different stages of cognitive maturity. Using the observation and description of language knowledge and use in the L2, at pre- and post-literacy stages in the L1 we expect to find qualitative evidence of how previous literacy skills in the L1 play a role in the fixation of the L2 in the short and long term.

5. Participants

The intensive exposure started when subject 1, who from now on will be called by the pseudonym 'Peter', was 6.9 years old and lasted eight months. Subject number 2, who from now on will be called 'James', was 3.5.

Peter had fully developed productive and receptive linguistic skills in his first language at onset. His grades and teacher reports were among the highest in his class and he could express himself accurately in his L1 (Spanish). He had had some contact with English through (a) regular English classes in school which consisted of three hours of English language per week, around 100 hours, in First Grade, and 2 hours of English language a week, around 75 hours a year, in one year at pre-school; (b) 2 hours of tutoring in English in a private language school where he had exposure and interaction with other Spanish speakers and a native English teacher, a total of 55 hours; and, (c) “language showers” (Coyle, Hood & Mehisto, 2010), or short task-based activities in English with his father for about half an hour a day since the age of two, 80 hours per year, totalling 392 hours over 4.9 years. Altogether, Peter is estimated to have received 622 hours of exposure to English by the age of 6.9. Therefore, at the end of First Grade, Peter comfortably met achievement requirements for English in Spanish public schools for students his age. With regard to his proficiency in English, he was unable to have a short conversation, he knew a considerable amount of vocabulary in English but his vocabulary, pronunciation and syntactic ordering were overtly insufficient and showed a strong transfer from Spanish at different linguistic levels (morphology, syntax, pronunciation, etc.). He was unable to communicate orally in English as he lacked both the linguistic tools as well as the sociocultural knowledge and above all, his degree of self-confidence in the language was scarce in spite of 622 hours of exposure to English in a Foreign Language context.

Table 1. Peter’s exposure to English before the time of the intensive exposure.

School education		Tutoring in private school	“Language showers”	Total
75 h	100 h	55 h	392 h	622 h

James had normal language development in Spanish at the age of 3.5 according to his instructors in school. He was not able to read or write in his first language but he was able to communicate with words and short phrases, as expected for a child of his age. His exposure to English was almost non-existent as he had not had any English in school or tutoring in English. James only had some exposure to English through “language showers” (Coyle, Hood & Mehisto, 2010) conducted by his father, that is, short exposures to the language, but which were not regular and he only had knowledge of English at the word level for daily items in the house, but no observed knowledge of English phrases at all.

6. Description of the intensive exposure

The intensive exposure for the two informants in this study started when the family moved from a monolingual Spanish environment in Spain into a monolingual English environment in the United Kingdom. Without further linguistic or cultural preparation, the informants moved into new schools and had to learn to communicate without Spanish, as there was no-one in their respective schools, nurs-

ery and infant schools, who could speak their first language. In the case of the infant school there were two other children of foreign origin, one Polish and another Russian, but they were in different classes. Concerning the family context, both parents were native speakers of Spanish, fully proficient in English (certified C2 level) and a family language planning decision was taken so that after an adaptation period of two weeks all communication at home would take place in English. TV, after-school clubs, and contact with neighbours and friends were also in English during the period of intensive exposure. Both informants spent an average of 7 hours a day in school, or after school clubs in English and while on holiday they attended holiday clubs of approximately the same duration. Table 2 shows a summary of the total exposure and interaction in English in the eight months during which the intensive exposure took place. It is relevant to mention that both informants were exposed to English during the stay abroad experience for the same amount of time.

Table 2. Exposure and interaction in English during the eight months of intensive exposure.

Interaction in school	Interaction at home, TV, reading and playing in the week	Interaction at home, TV, reading and playing during weekends	Total
1,120 h	1,120 h	896 h	3,136 h

As opposed to other learning contexts such as short stays abroad to take a language course for 2-4 weeks, particularly with adult learners involved, a key factor in the perception of accomplishment among students is related to opportunities to interact (Tragant, 2012). In this particular situation, and at this early age, opportunities for interaction were not an issue.

7. Analysis

As was mentioned before, four data collection (DC) techniques were used: (a) a researcher's diary, (b) regular audio recordings of the informants, (c) objective vocabulary test, (d) questionnaires distributed to teachers.

- a) The informants' language performance was observed, and a diary kept on each of them for regular record of the informants' behaviour and performance in both languages. (DC1)
- b) Oral recordings while completing language-oriented tasks like reading or playing. (DC2)
- c) To measure vocabulary knowledge, a question-answer system was used to track the amount of vocabulary James could identify and/or produce. With regards to Peter who had developed literacy, an X-Lex 2000 was used. (DC3)
- d) An open questionnaire for teachers distributed in both case studies, see appendix 1. (DC4)

Table 3. A description of the data gathered in both case studies.

	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22
DC1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
DC2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
DC3	3								3													3
DC4			4					4						4								

Data collection timing. Legend: DC (Data collection), M (Month), 1 (= Diary entry), 2 (Audio recording), 3 (Vocabulary test), 4 (Teacher questionnaire).

7.1. Researcher's diary

The researcher's diary was used to keep record of the students' linguistic evolution throughout the investigation. Entries in this diary usually connected the linguistic behaviour of the informants with the different types of data collection procedure. For instance, it kept a record of the dates for all recordings and it registered contextual information in case it was not perceived in the audio recordings. So, the main purpose of the researchers' diary was to document the observation data that was being collected in various ways.

7.2. Regular audio recordings

7.2.1. Case study 1: James

In order to evidence the linguistic evolution of James (3.5 years old), five evaluation moments were selected, three during the immersion period (4 months, 1 week; 5 months, 3 weeks; 7 months, 3 weeks), and two once in the home country (8 months, 1 week; 11 months, 4 weeks). Examples are provided for a) accurate oral production in English; b) instances of code-mixing; and, c) instances of inaccurate English. Here follows some information taken from the researcher's diary and the transcription of some recordings.

Four months one week:

At this stage, James could sing *Incy Wincy Spider* and *London's Burning*. (SCS_4)

a. Accurate English

I like this dinner.

Where are my scissors?

I want some spaghetti and more tomato, please.

This is the swimming pool for big boys.

This is a bigger fish.

You see, I told you.

Daddy now you come to play with me. You sit over there.

Are you sure that's the real Santa?

b. Instances of code mixing

I said quiet, *que* I'm sleeping.

Look daddy, my *pupa* is gone, my *pupa* is alright.

Daddy, *quiero* some water please [even though he would use the verb *want* accurately in other contexts].

In the school *tiene* Father Christmas.

c. Inaccurate English

I'm a little bit finished [meaning, I'm not done yet].

No, lots of minutes [when he is asked to go to bed in five minutes].

Here is another one table.

*Five months three weeks:**a. Accurate English*

I'm stronger. Your turn. You are the bad knight. [While playing]

Catch me!

I need to drink it. Open it for me, please.

I'm not breaking it. I'm doing this [showing what he has in his hands].

Is that the little one? Can you open that?

Have you seen the fox? Where is the fox?

Julie said we need many of these.

What are you doing?

b. Instances of code mixing

Code mixing becomes more and more rare. Some instances can barely be identified even if James knows how to use those words in other contexts.

Can you sleep *con* me?

Quiero more, mum.

c. Inaccurate English

TV is working? Yes it works!! [wrong word order, although not uncommon for a child his age]

I need a spoon. [in fact, he meant a fork]

Seven months three weeks:

At this stage James could tell the *Three Little Pigs* story with gestures and full sentences, and sing *Incy Wincy Spider*, *Baa, Baa, Black Sheep*. (SCS_11). Transcriptions were made with the help of an experienced researcher. He could also tell stories based on the pictures he used to read with his parents and brother.

a. Accurate English

I want to go with mummy.

My toy is lost again. I can't find my toy, dad.

Where's my rabbit? I can't see it, it's gone.

b. Inaccurate English

My toy is *in* the floor. I need to get my toy.

If *there's* any people the plane breaks [inaccurate English but not uncommon for a child his age].

c. Instances of code mixing
Code mixing non-existent.

Eight months one week:

When the intensive exposure ended (month 8) James moved back to his Spanish monolingual environment and he wouldn't speak any Spanish at all; although he could understand what was said to him in Spanish, he would answer in English. In school, he would speak English to his teacher and classmates even though they would not understand him.

Eleven months four weeks:

James could communicate without any problem with his classmates and friends in Spanish. While speaking Spanish he sometimes lacked the precise vocabulary that other kids of his age could use, and at times he didn't even show he could use the equivalent in English. Transition into the Spanish context was attenuated by the fact that at home TV continued to be in English and that as a family language policy the One Parent One Language (OPOL) paradigm was adopted with the double aim of making it easier for the child to transition back into the context in which he had been once monolingual in Spanish. A second purpose of the OPOL model was that parents wanted the child to keep in contact with English though in Spain, as it is now a language of international use and value. Indeed, it was interesting to see how other Spanish native speaker parents in playgrounds sometimes used English with James and their own children. English apparently was perceived as an acceptable language given its international importance. A further reason for following this practice was that there were possibilities for the family in question to move back temporarily into an English-speaking country, and keeping the language would make future transitions easier for the children.

Twenty-two month:

The aforementioned OPOL model continued to be used 14 months after the end of the intensive exposure. The father continued speaking to James in English and at home TV was also in English. The informants carried out other interactions in Spanish and remained exposed to the language at school, in the playground, etc. The main feature was that James understood everything his father told him but he would always answer in Spanish. On very rare occasions the father managed to elicit output in English, although it was rare and mainly at the word level. With regards to Spanish, the dominant language in the environment, James had communication skills equivalent to any child of his age according to his teacher. Perhaps, the only trace of his stay abroad was that he showed some difficulties to pronounce some sounds in Spanish, particularly the /r/ sound, but according to his teacher, this is often the case in children of his age who have always lived in a monolingual Spanish environment.

7.2.2. Case study 2: Peter

Peter had fully developed literacy skills in his first language, Spanish, before starting the period of intensive exposure. He stood out in his class and his reading and writing skills were among the highest in his Spanish grade 1 class according to his grades and teacher reports. As a consequence of his abrupt immersion in the L2 context, he rapidly started to develop his L2 language skills both in speaking, writing, listening and reading at a pace that tended to surprise his new teachers. Indeed, after a few weeks of schooling he was invited to join a school club for strong readers and this further encouraged him to keep on reading and improving his comprehension abilities in English. As a side effect, his self-confidence also increased and helped him to overcome cultural and linguistic barriers as would be expected. In a way, as a strong reader in his first language, Peter seemed to have transferred his L1 reading skills into the second language. With regard to linguistic development in writing, he regularly made spelling mistakes (e.g. *techer, *ligt, *mouses, etc.) or grammar mistakes (e.g. changing tense in the middle of a sentence, building irregular verbs as if they were regular, etc.) that according to his teacher and supervisor were normal for a child of his age.

Conversations and reading out loud were recorded regularly to study his evolution which proved to be “tremendously fast” according to his teachers. By the end of month 2 of the intensive exposure, assimilation was complete and participation in school took place only with very occasional misunderstandings due to some lexical or cultural gap, according to his teacher. About social integration, Peter was immersed in a truly English monolingual context, but the Spanish language evoked positive attitudes because some kids and many parents had spent holidays in Spain and they often made positive comments about Spanish culture.

When Peter returned to his home country after the intensive exposure, again he re-entered his old school without an adaptation period. As with James, he still got input in English at home from TV and one of the parents, who kept talking in English to both children. From a social point of view, the return was encouraging for him as he met his old friends and at school, the Content and Language Integrated Learning (CLIL) methodology, in which 50% of the teaching is delivered in English, continued his language progress. With regard to his speaking, according to his teachers, he kept his good speaking abilities although with a slight foreign accent (consonant aspiration, vowel quality, etc.) which disappeared after a 3 – 4 week period. Concerning his writing abilities, it must be said that given the fact that the practice of Spanish reading, speaking, listening and writing was almost non-existent, his writing abilities decreased in terms of the appearance of spelling errors. Spanish is a language with many spelling rules, for instance, accentuation, and <v> distinction, <q> and <c> distinction and it could be seen that spelling mistakes that were non-existent before the intensive exposure had to be worked out and improved. As he regained his reading habits, these spelling problems were progressively overcome and were similar to those of other children of his age after five months.

Twenty-two months:

At this stage, Peter’s reading and writing abilities in English seemed to have consolidated and he could express himself without any problem. According to his teacher,

he maintained high performance in English and other informants conducted in English in the CLIL program. In terms of his speaking skills, he showed certain features of an English accent when speaking Spanish as would be expected as he still had exposure to the English language in school, TV and his father, but little chance to produce output or interact with other English mother tongue speakers. His Spanish seemed to be right in all domains and comparable to that of other classmates.

7.3. Objective vocabulary test

It goes without saying that lexical development is of paramount importance in Language Learning and some studies have shown how stay-abroad experiences have a clear impact on vocabulary development (Milton & Meara, 1995). With regard to the lexical evolution of James, this subject started with null knowledge of English and after a month the researcher attested that he could identify the meanings of at least 150 lexical items. Although the plan was to test the subject three times during the immersion period, it was found that he learned new words so quickly due to the different contexts of exposure (nursery school, TV, swimming lessons, interaction with friends and with the family, etc.) that there was no accurate way of testing the amount of vocabulary he could identify. It is worth mentioning that after approximately a month, the interaction between siblings took place in English. The other informant under investigation in this research, Peter, had developed literacy skills both in the first language and the second language. Three vocabulary written tests were distributed at three different moments: (a) at the beginning of the intensive exposure (M01), (b) at the end of the intensive exposure (M9), and 13 months after the intensive exposure had finished (M22).

An X-Lex test was carried out at three intervals, first when he had just got to the UK in month 1 (T1) and then in month 9 (T2) when the score considerably improved. Finally, four months after the end of the intensive exposure (T3) the results of the tests maintained a level similar to T2. For a detailed description of X-Lex description and implementation see Milton & Roghani (2015).

Table 4. Peter's X-Lex vocabulary scores divided by frequency band.

Case study 2: Peter	X-Lex score				
	Frequency bands				
	1000	2000	3000	4000	5000
Month 1 (T1)	441	303	202	138	63
Month 9 (T2)	913	587	461	287	152
Month 12 (T3)	905	573	449	269	138

Table 4 shows the evolution of vocabulary identification when taking X-Lex vocabulary test. A considerable increase can be noticed in all frequency bands (1000, 2000, 3000, 4000 and 5000 words) between T1 and T2, as should be expected as that is the time of immersion. Scores are in broad terms maintained over time even if they low-

er slightly in the long run, i.e., in month 12 (T3) as a result of the fact that immersion ceased right after T2.

7.4. Teachers' questionnaires

A research questionnaire was distributed to the teachers of the two informants involved in this research to assess each subject's linguistic development and to pinpoint any shortcomings in his language growth. In this section only some of the comments, the ones considered most relevant for the study, are reproduced and the data provided corresponds to the questionnaire distributed in month eight (M8), as it was the most revealing.

With regards to *Case study 1*, James:

"When James first started at nursery he would often speak in long sentences to adults and other children but not in English. James has always been a confident speaker and has wanted to explain and communicate with others. As time has gone on he has begun to use more and more English words and sentences and now you can have a conversation with him in English."

"At the nursery there are about 8 or 9 children who will ask every day where is James and will choose to play with him if he is there."

"Play to some degree breaks all language barriers as it is a universal thing that can be shared by all [...] he is confident in approaching others to play with and will still stop and listen to what they were saying even at the very beginning when his understanding might have been limited. [...] He is now at the level."

"Since James has begun to use more English his pronunciation has never caused many problems. As most of the children at the nursery are developing their language skills at different levels I think the children are accepting of each individual way of speaking."

"Looking at his current rate of development and if asked to predict any language-related problems in the future I cannot think of any. He is interested and wants to talk and listen to others."

From these answers, it can be easily derived that James enjoyed innumerable opportunities for interaction and that having chances to interact with other speakers of English was not an issue. At the beginning, he started with absolutely no knowledge of English but after eight months he could easily communicate orally without any problem with classmates and teachers alike. Bearing in mind the caretaker comments it does not seem that adapting to the new language was either traumatic or difficult and represented challenges that he could easily meet in a period of 8 months.

With regard to *Case study 2*, Peter:

"Peter's aural comprehension has developed during his time with us; he listens to instructions well and follows them correctly. If he is unsure (usually due to things being spoken quickly or using local dialect) he will always check for clarification."

“Peter speaks very good English and this has developed extremely well since July (time of arrival), he quite happily chats away during circle times, he is confident to answer questions and was also a narrator in our Christmas production. [...] Peter has a reading age of 9 years ten months, which is well above average, he has good comprehension skills.”

“Peter’s writing is extremely neat and he is now beginning to write at length using sentences, however, sometimes his sentences do not make sense as Peter can sometimes add extra words. [...] Peter is a popular member of our class, he is happy to work with a variety of children as they are with him. He is content to chat away in social groups and never seems to worry if he has to repeat what he has said to clarify meaning.”

“Peter’s linguistic abilities are now very similar to the other children. He just has that wonderful accent.”

“Peter has an extended vocabulary which I feel now is above some of his peers, he sometimes reverts to Spanish if he doesn’t know the English word.”

“His accent does sometimes cause misunderstandings but we overcome them by asking Peter to explain what he means or by telling us his sentence, we can usually work it out. This often causes amusement to all involved.”

“With the development Peter has made since July I do not anticipate Peter having any language-related problems.”

“We often ask Peter to repeat certain English words in his wonderful Spanish accent. He finds this funny and is quite happy to please. He also likes to tell what the Spanish is for some English words.”

Peter’s situation was initially perceived as more challenging since from the very beginning he had to face activities in which literacy skills were required. In a Grade 2 classroom he had to face not only language-related activities but also tasks where he had to perform and carry out tasks satisfactorily. According to his teacher’s report Peter performed very well and in some aspects he outperformed other classmates. Again, opportunities for interaction were not a problem.

8. Discussion

Abundant data was gathered through the extension of this project, but only the data that proves meaningful and revealing is reproduced here.

The quantitative data regarding the amount of exposure to the language in a monolingual context before the intensive exposure and during the exposure shows how contact with the English language in a traditionally monolingual context (limited to classes in school or tutoring) is overtly insufficient to trigger the development of proficiency in a Foreign Language. The figure of approximate hours of exposure to English during the intensive exposure, around five times as much, accounts for the huge improve-

ments perceived in both informants. Abundant research both in monolingual children language development (Hoff, 2006; Quiroz, Snow and Zhao, 2010) and the acquisition of second language in adults (Moyer, 2014; VanPatten, 2015) mention the importance of profuse high-quality input, and plentiful opportunities for interaction (Gass and Mackey, 2015), for successful language acquisition. Whereas much less attention has been paid to the effect of input on the development of bilingual children's literacy (Huang and Li-Jen, 2018) in spite of its importance (Hoff and Core, 2013).

The tools used to gather information about the informants under study were varied and centred on various complementary aspects that allowed a sufficiently broad panorama of the informants' development, namely, their oral performance, their performance in objective vocabulary tests, their teachers' observation and the researcher's observation. The transcriptions of some recordings of James' performance are particularly interesting as they show a graded evolution from monolingualism in Spanish, to code-mixing, and a progressive evolution into monolingualism in English. It is also worth mentioning how this path was also exhibited in reverse and the subject in case study 1, James, went back to monolingualism in Spanish, except for the fact that he could understand his father in English, as well as TV programs.

Some reflections follow in relation to the three research questions posed earlier. With regard to the question about how the intensive exposure experience affected the L2 linguistic development of the two informants in the short term, it can be stated that as they both had unlimited opportunities for interaction and as there were no adverse social or motivational factors that could negatively affect or hinder integration, a period of eight months was enough for the informants under study to develop linguistic skills comparable to children of their age. In relation to how the intensive exposure experience affected the two informants' linguistic development in the short term, it was perceived that in the case of the younger learner without developed literacy skills and aged 3.5 at the beginning of the intensive exposure experience, a complete loss of the L1 knowledge could have been possible if further contact with the L1 had not been maintained. When they went back to their original Spanish-speaking community; this informant had lost any capacity to communicate orally in Spanish. In the case of the seven-year-old boy who had fully developed literacy skills in Spanish at the beginning, and in English later on, he experienced some recession which could be easily overcome and compensated with further training.

Finally, on the question about their L1 and L2 development once the experience had finished, it could be stated that it just took the informants a few months to regain their linguistic skills in their mother tongue. Going back to the home culture and re-entering previous monolingual environments in the L1 allowed the informants to have opportunities for interaction and endless input in the L1, what, as expected, quickly reversed the process of L1 attrition.

9. Conclusions

Immersion experiences like the one described in this article naturally lead to implicit learning which is considered to be very advantageous for the development of structures in the L2 that are difficult to learn explicitly (Robinson, 1996), perhaps because of the distance between the L1 and the L2, as it would be the case of the Saxon genitive in English.

In view of the positive effects of intensive exposures at an early age (10yr-11yr), Llanes and Muñoz (2013, p. 84) conclude that necessary means should be provided so that children have the opportunity to improve their L2 in a study abroad context, particularly “[...] at a time in their life when they can benefit greatly from intense exposure to the target language”. This conclusion is also backed by the results of this study, even for a subject with developed literacy skills who is younger than the informants in Llanes and Muñoz’s study.

It is interesting that both informants developed sufficient linguistic skills in the language of immersion in a period of eight months and both could fully perform in their respective environments, as suggested by their teachers in their questionnaires. However, the subject who had not developed literacy skills in the language during exposure, because of his early age, had more difficulties in the long run to maintain the language after the exposure. The subject who had developed reading, writing and speaking abilities and was older, around seven years old, maintained these L2 skills over time. By way of summary, it could be said that apparently the child with developed literacy skills could benefit more from intensive exposure than the one that just acquired the language orally without the chance of ‘fixing’ it. In a way the common view that exposure to foreign languages “the sooner, the better” did not apply on this occasion, as was also suggested in (Muñoz, 2012).

The results of this study aim to provide some insights that might be useful for parents planning situations similar or equivalent to the one described herein which they will need to move into a different culture, particularly if they can to some extent choose the right time bearing in mind the age of their kids.

The analysis of the participants’ language development has yielded some interesting findings on how literacy skills seem to be a key factor in the maintenance and consolidation of language knowledge.

With regard to educational contexts, language policy measures are often undertaken to introduce a foreign language in the classroom as soon as possible in nursery and infant school for a few hours a week, for instance, in places like Spain. This initiative, although not being adverse for very young children, may not have a significant effect on children’s second language development in EFL contexts in the long term, if we particularly bear in mind (a) the limited time dedicated to it, and (b) the aim of this teaching initiative which tends to be the development of functional communication skills in a Foreign Language, and not the development of communication abilities similar to those of a monolingual English speaker. Similarly, learners immersed in CLIL (Content and Language Integrated Learning) methodology in typical EFL contexts might derive greater benefit from the implementation of this methodology at a stage when they have already developed L1 literacy skills, as could be seen in the case of Peter in the present study, always bearing in mind that the ultimate aim is probably for learners to develop communicative skills in English that allow them to function in that language and use it as a *lingua franca*.

10. Implications for further research

To conclude, this study has some limitations. First, the fact that we are dealing with two highly international languages with prestigious status probably favours

integration, motivation and positive attitudes towards each language when encountered as a Foreign Language. In the case of languages with high and/or low social prestige, perhaps the attitudes and acceptance would have been different, and the informants' linguistic development would have also been affected. Second, the languages involved in this study, although distant, belong to the same language family and probably languages more distant from a typological point of view would have produced different results. Third, this is a case study run with just two informants whose main difference was the presence/absence of literacy skills. A study with a higher number of participants would probably provide more nuanced variation among participants.

Further research would need to account for the way that the benefits of the intensive exposure described in this study can be maintained and preserved so that the cumulative effect of various experiences of this nature entails an advantage and a pathway to bilingual development.

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Appendix 1

Language development questionnaire. Student's name _____

By _____ Date: _____

1. Could you comment in general terms on Pedro's **linguistic development** since he got to school with regards to the following?
 - a) aural comprehension
 - b) spoken production
 - c) reading comprehension
 - d) writing production
 - e) socialisation and relationship with other children and in what ways this was influenced by his language skills in English.
2. In what ways are 's linguistic abilities **similar** to the ones of other children of his age at this moment?
3. In what ways are 's linguistic abilities **different** from other children of his age at this moment?
4. Does 's accent/pronunciation now cause problems of misunderstandings with the teacher or with other classmates? If yes, how often? In what ways?
5. Any shortcoming or language related problem you think you can anticipate with regards to Pedro's linguistic development in English.
6. Can you provide an instance of a "linguistic episode" related to Pedro's that you think is worth mentioning? For example, a case of a misunderstanding with you or with other children, a funny incident, an occasion on which you were surprised with regards to his use of language, etc.
7. Anything else you would like to comment on, especially in terms of linguistic development.

Thank you for your cooperation.

