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Simultaneous Bilingual Acquisition in a Toddler Raised in a Bilingual Home in Mexico: A Single Case Study

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SIMULTANEOUS BILINGUAL ACQUISITION IN A TODDLER RAISED IN A BILINGUAL HOME IN MEXICO: A SINGLE CASE STUDY

This investigation has been read by the members of the Committee for

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Abstract

This thesis reports on a mixed-method case study investigation concerning the bilingual language acquisition of a toddler raised in a Mexican home.The child was 30 months old when the observations started; as this study was carried out during a ten month period covering from June 2014 (Week 23/2014) until March 2015 (Week 13/2015), the toddler was almost 40 months old when the observations finalised. Its primary aim was to throw detailed light onto the process of bilingual language acquisition in a family of Non-Native English Speakers within a mainly Spanish monolingual community. In order to have a more focalised study, the observations were concentrated on the comprehension of both languages through the acquisition of linguistic commands by the toddler.

Research data were mainly collected through observations and field notes taken by the researcher. The research instrumentswere spreadsheets that helped the researcher to keep a record of the linguistic commands acquired, the different types of input items used, the amount of exposure and other relevant observations. The acquisition of commands is measured in terms of execution of the actions requested both in Spanish and in English.

The research findings not only match results from previous similar research but also provide a great insight into the Bilingual Language Acquisition process of the child. The main analysis of this study lies in the correlation between exposure and numbers of commands acquired in each language. The relationship between these variables are discussed taking into account the role of the minority language used in the community and the social context in Language Acquisition.

Over and above the results related to the research question, this thesis also discusses additional findings which are relevant for the field. Examples of these findings are discussed throughout this thesis such as the evolution of the child's code-mixing, perceptions towards the bilingualism of the child by the immediate social circle,

enunciation as distinctiveness of speech, development and comparison of language production and language comprehension and the decision to receive input in each language by the child, among others.

As so, in overall conceptual terms, this study has contributed to an understanding of Bilingual Language Acquisition in a toddler raised by Non-Native Parents within a Monolingual Community.

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Dedications

I dedicate this dissertation to the actual object of this study: my daughter Sophie.

Sophie:

I really hope that one day, you can read this thesis and see how valuable you were not only to my life as a woman but also as to my life as an academic. Thank you for enduring the eternal "Give me just 10 more minutes to write this…" I just love that by smiling you are able to bring instant joy to my worried mind. I love you!

I also want to dedicate this work to my loving family.

My son Giovanni, who was in my womb during my classes at the MA and after he was born he became a motor that kept me going. *Gio: Your loud and bold laughter make me concentrate in loving life. I love you, bebé!*

To my best friend and husband, *Jeovani: I cannot begin to explain what your support and love has meant to me. I truly admire and love you. Thank you for being my partner in crime and having always faith in my decisions.*

To my mother whose never-ending love and support has been invaluable into completing this dissertation and the entire Masters experience. Her love helped me to survive those stressful moments. *Mami: gracias por no permitir que me rindiera.Gracias totales por todo tu apoyo durante toda mi vida.*

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To my brothers, my sisters in law, my nephew and nieces. Your encouragement has been vital in my life and in all my adventures.

SIMULTANEOUS BILINGUAL ACQUISITION IN A TODDLER RAISED IN A BILINGUAL HOME IN MEXICO: A SINGLE CASE STUDY

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CHAPTER 1: INTRODUCTION

1.0 Introduction

The study of bilingual language acquisition has had a remarkably long history. Published research of diarists following closely bilingual language acquisition in infants and toddlers (Ronjat, 1913; Leopold, 1949; Halliday, 1975) have served as the basis for the study of bilingualism. Although methodological difficulties can be found in the aforementioned studies(Nicoladis, 2008), there is no doubt of its significance to the field.

A bilingual speaker can be defined in the most general terms as an individual who can speak and understand two languages(MacLeod, Fabiano-Smith, Boegner-Pagé, & Fontolliet, 2013). Many children are raised in bilingual families and acquire two languages from a very early age. In this respect, there are different criteria used to classify children raised bilingual according to the age of exposure (De Houwer, 1995; McLaughlin, 1978). For the purposes of this study, the discussion was focused on the simultanous language acquisition of a toddler from the starting point of 30 months old. The study covered 10 months in the language development of the toddler and it finished when the participant was within days to be 40 months old. The languages involved in the upbringing of the child have been Spanish and English since birth.

This study explored the acquisition of the two aforementioned languages (Spanish/English) in a toddler who is being raised in a bilingual home in Mexico. The acquisition was measured through the execution of commands by the child.In order to complete this research a mixed method approach was used. This study required a qualitative method regarding the rich data collected(Patton, 2012) and a quantitative method to measure and code the commands and exposure of both languages(Creswell,

2014). Observations and field notes were used for qualitative data collection. For quantitative data collection, a spreadsheet was developed in order to record the amount of exposure to both languages per week.

1.1 Purpose and justification

The purpose of this study is to gain a perspective of a toddler's bilingual language acquisition within a monolingual community by learning commands. This study is valuable not only for its academic significance but also for the positive implications to the participant. The main motivation for this study is to contribute to the cognitive and social development of the toddler.

1.2 Significance

This research will be significant to parents who want to raise their children in a bilingual environment within a monolingual community. Mexico is an example of a monolingual community. This research also provides a broader perspective on the strategies used to develop bilingual language acquisition. Additionally, the participant will benefit from the simultaneous language acquisition which has been proven to provide cognitive and social benefits (Genesee, 2007; Hakuta & Diaz, 1984; Hanakoto, 2008).

1.3 Research context

The objectives of this study have a focus on two main aspects: 1) language comprehension measured by acquisition of linguistic commands in two languages by a toddler and 2) her exposure to input in the two languages. Another important factor to consider is socialization

since the exposure to the languages is influenced by the context of the toddler. The participant is being raised in a bilingual home within a monolingual community. Despite both parents are bilingual, the father only addresses the child in Spanish and the mother/researcher uses English. However, as it is described in more detail in Chapter 3, the mother uses also Spanish according to the social situation. In consequence, this research was constructed on the context of language acquisition, child bilingualism and language socialization.

According to Krashen (1982), language acquisition is a subconscious process. This means that we are not consciously active in the process of acquiring a language. We only know that we use the language for communication purposes. Indeed, children going through the process of acquiring a first language learn the language and its complex system naturally as breathing or walking (Clark, 2009). Studies conducted by Grosjean (1982) and Romaine (1995) as well as by Juan-Garau and Perez-Vidal (2001) are very relevant to this study because they all contribute to the theory behind bilingual language acquisition.

The research conducted in my thesis can be compared to other bilingual language acquisition research that focuses on the relationship between exposure to input and language comprehension (Pearson et al, 1997). In this area we find Thordardottir (2011) who examined the relationship exposure-acquisition in French-English bilinguals in order to define whether exposure to a certain language may influence the rate of acquisition differently for production than for comprehension.

Most of the research on bilingual first language acquisition has been done in bicultural homes in the United States (King & Fogle, 2006; Lyon, 1996;Pearson, 2007). Many of these studies describe the process of language acquisition of children of

immigrants (Henry & Apelgren, 2008) and the context of the acquisition of both languages (Valdés, 1998). Although there are some case studies in similar language learning environments (Scyner, 2014), more studies describing the Mexican context of bilingual acquisition in toddlers are needed. My research will contribute in this field by enhancing knowledge of second language acquisition in small children living in Mexico (monolingual community). The implications for this specific context are both pedagogical and theoretical. They are pedagogical because they might be used in bilingual planning for preschools and also for parents aiming to raise children bilingually. The theoretical implications represent a contribution to the study for students and scholars in linguistics and sociolinguistics.

1.4 Background of the researcher

The researcher speaks three languages: Spanish, English and German, Spanish being her mother tongue. She was not brought up in simultaneous bilingualism. Instead, the researcher acquired a second and a third language through structured education. These three languages were acquired consecutively. Her professional background includes simultaneous interpretation/translation in Spanish and English as well as English and Spanish teaching. As the mother of the participant, the researcher is eager to encourage bilingualism in her children.

1.5 Research location

This study was conducted in the family home of the toddler. The family home is the most familiar setting for the toddler. This setting was selected in order to observe the natural language acquisition. The family home can be described as an average low-middle class

Mexican home. The house is located in Puebla (situated center/south in Mexico) which is a monolingual community.

The family consists of four members:

- The mother (the researcher) is the main care-provider of the participant.
- The father is a bilingual speaker of English and Spanish. He is the secondary care-provider.
- A female toddler is the participant of this study. She has a normal physical and cognitive development according to her age. She was 29 months old when the observations began.
- The youngest member of the family is a baby boy who was 6 months old when the observations began. He is also being raised in bilingualism but he is not a participant in this study.

Additional to the family home, the toddler spends time in the house of her grandmother when the mother is absent. The grandmother is monolingual and therefore she only speaks Spanish to the participant.

1.5.1 Description of the situation of the toddler

The mother is the main care-provider which implies that she is the main language provider. The toddler has not been enrolled in any daycare, nursery or group activity which could imply a social environment with children of her own or even different age group. Close relatives, neighbours and the social environment she is being exposed to, are monolingual.

1.6 Research Aims

The principle aim of my study is to explore simultaneous language acquisition in a toddler raised in a bilingual home within a monolingual community. Additionally, this study aims to analyze the amount of commands learned by a toddler in two languages over a specific period of time. This has to be done taking into account the amount of exposure to those languages.

1.7 Research objectives

- To quantify the commands acquired by the toddler in both languages over a period of ten months from June 2014 (Week 23/2014) until March 2015 (Week 13/2015).
- To analyze the amount of exposure the toddler has to both languages and its relation towards the commands acquired.

1.8 Research questions

In order to accomplish the aims and objectives of this research, the following research questions were developed:

- RQ1. How much exposure to the majority language (Spanish) and the minority language (English) would the toddler receive during an average week?

As it can be appreciated in the results Chapter, this research question was later modified because my intention is to have a broader picture of the input received by the child during the 10-onth period. The revised research question is:

- Revised RQ1. How much exposure to the majority language (Spanish) and the minority language (English) would the toddler receive during the observation period?

- RQ2. How many commands would the toddler acquire in majority language (Spanish)?
- RQ3. How many commands would the toddler acquire in the minority language (English)?
- RQ4. Is there a relationship between the amount of exposure received in each language and the commands acquired by the toddler?

In my research questions, I am stating that Spanish is the majority language and English is the minority language. The basis for this representation is that Spanish is the community language, which is the main language available and English is the second language. This does not represent the input received by the child.

The first three research questions implied qualitative research only but in order to analyse the answer of the final research question I did not only use the qualitative data measured during the 10-month period but I also used the quantitative data obtained from the journal and observations sheets I kept. Also derived from these observations, additional quantitative findings were obtained which were very rich in analysis.

1.9 Chapter summary and overview of thesis document

This chapter provided an introduction to the study of the bilingual language acquisition of a toddler within a bilingual home. It has also provided an overview of the plan for this research and the intended scope. The following chapter presents the theoretical framework of this study. In the third chapter, the methodology used will be fully explained. This includes an explanation on the use of the data collection methods. Chapter 4 will describe

the results of this study. Finally, in chapter five, the conclusions of this research will be shown.

CHAPTER 2 THEORETICAL FRAMEWORK

2.0 Introduction

As previously mentioned, this study focuses on the simultaneous bilingual acquisition of a toddler within a monolingual community by identifying the successful acquisition of linguistic commands executed by the child. In order to provide a greater perspective of the issues related to this study, it is important to review the theoretical concepts and methodological procedures most commonly related to the objectives of this type of study, which is the main objective of the current chapter. Therefore, this chapter provides an overview of the relevant literature and past research on simultaneous language acquisition.

This thesis deals with two core concepts: linguistic commands acquired in two languages simultaneously by a toddler and her exposure to input in the two languages. It is important to consider that the exposure to the languages is influenced by the context of the toddler. The participant is being raised in a bilingual home within a monolingual community. In consequence, this chapter explores three main sections: *Language Acquisition*, *Bilingualism*, and the *Role of the Environment* in this process.

2.1 Language Acquisition

Studies conducted on language acquisition are seen as the foundations of different fields such as linguistics, language education and psychology, among others. Such aforementioned studies continue to serve as the basis for current research and their value is undeniable no matter the incessant development of the field. All these studies have different perspectives of what language acquisition is. In very general terms, language acquisition can be seen as a process in which we obtain the capacity to receive and

understand language and the capacity to produce meaningful words and sounds, all of this done with one objective: communication.

There are different approaches used to understand the complex process of language acquisition. Two main approaches with contrasting views are those of Noam Chomsky (1965) and B.F. Skinner (1957). B. F. Skinner (1957) proposed the idea that language depends largely on environment. He believed that language is acquired through principles of conditioning, including association, imitation, and reinforcement. Therefore, children learn words by associating sounds with objects, actions, and events and by imitation. In contrast, Chomsky (1965) proposed a biological explanation of language development. Chomsky argued that human brains have integrated a language acquisition device (LAD) which allows children to develop language skills. According to him, all children are born with a universal grammar, which makes them receptive to the common features of all languages. Both views are important for this study, as it is important to assert that factors such as nature and environment have been elemental for the bilingual first language acquisition of the participant.

2.1.1 Types of Language Acquisition

Most researchers divide language acquisition into two main categories: First-Language Acquisition and Second-Language Acquisition. Language acquisition is usually used to refer to First-Language Acquisition. This focuses on the study of infants acquiring their native language. Guasti (2002) considers that first language acquisition in children occurs without explicit teaching and that it can happen under different circumstances and varying periods of time but ultimately it occurs in an identical way in every language. As such,

despite the many differences in languages around the world, children become proficient language users at the same rate as long as they are experiencing normal physical and cognitive development. Most children will learn their first language, a highly complex and abstract symbol system, without conscious instruction on the part of their parents or caretakers (Kies, 1995). Interestingly enough, this all will be done without obvious signs of even making an effort or experiencing any difficulty in the process. This is the main reason why the process through which children learn their first language has always fascinated people.

Within First Language Acquisition, we can find also the acquisition of two languages known as Bilingual Language Acquisition. The term Bilingual Language Acquisition refers to the acquisition of two languages either simultaneously or sequentially (Montrul, 2008). In this instance, Swain (1972) has referred to the acquisition of bilingualism as a first language. In a more specific manner, Meisel (1990) used the idea of "two first languages" or Bilingual First Language Acquisition (BFLA). In this thesis, the terms Bilingual Language Acquisition (BLA) and Bilingual First Language Acquisition (BFLA) will be used interchangeably. This is distinguished from Second-Language Acquisition, which deals with the acquisition (both children and adults) of additional languages, after completing the acquisition of the first language. These definitions are based on the concept of mother tongue and the learning of a second language(Romaine, 1995).

2.1.2 Stages of Early Language Acquisition

Age is a very unreliable measure of language development. Different children, months apart in age, could both be using the same grammatical constructions. During the late 1960s, Brown (1973) undertook a study of the linguistic development in children, where he devised a measure of grammatical development that was independent of chronological or mental age, the notion of Mean Length of Utterance (MLU). Brown (1973) described five stages of language development based on the MLU in a child. His research demonstrated that MLU was a better predictor of what linguistic structures a child was able to use than chronological age. The following table summarizes the five stages of grammatical development given by Brown:

Table 2.1

A Summary of Brown's Five Stages (1973)

Stage	**Range of MLU (morphemes)**	**Upper Bound**	Mean MLUm	**Stage Name – Description**
	1.00			***The period of single – word utterances*** There is no grammatical knowledge
1	1.00 – 1-99 1.00 – 1.49 1.50 – 1.99	5	1.75	***Semantic roles and syntactic relations*** Basic semantic relations in language. Acquisition of first syntactic device – word order
2	2.00 – 2.49	7	2.25	***Modulation of meaning*** Acquisition of inflections and grammatical morphemes
3	2.50 – 2.99	9	2.75	***Modalities of the simple sentence*** Yes- No questions, wh- questions, imperatives and negative questions
4	3.00- 3.99	11	3.50	***Embedding of one sentence within another*** Complex sentences (complements, embedded wh- questions, relative clauses)
5	4.00 and up	13	4.00	***Coordination of simple sentences and prepositional relations*** Sentence, noun phrase, and verb phrase coordination with the use of conjunctions

2.1.3 The Initial Use of Commands in Language Acquisition

In terms of expressive language, Brown (1973) noted the semantic beginning of the modality of imperative sentences in Stage 1, but finds its formal development in Stage 3. In Stage 1, imperative sentences cannot be identified since there is no intonation yet. Sentences without an openly expressed subject have not been narrowed down to commands as it happens in Stage 3. The age range of the children studied by Brown in Stage 3, were "1;10 to 2;1 (Eve), 2;11 to 3,0 (Adam) and 3;0 to 3;5 (Sarah)" (Idem, 1973, p. 180).

In terms of receptive language or language comprehension, the execution of commands is a significant milestone achieved by children as early as one year old (Crain & Lillo-Martin, 1999). An example of this would be when the child obeys simple commands such as "point at your nose". This occurrence continues developing as most toddlers between 2-3 years will understand two stage commands ("Get your socks and put them in the basket") (Bowen, 1998). By 3 years of age, this comprehension increases and the child understands fully what it means to "put it on the table" or "put it under the bed". This is a great example of the fast-growing comprehension of the language that a child experiences. These milestones are particularly important for this study as the period of observations of the participant (29 to 39 months old) is within the aforementioned age range. Because of this, the Stage 3 described by Brown (1973) is the most relevant for this study as it shows the acquisition of commands in terms of imperative sentences within the same age range described above.

2.2 Bilingualism and Bilingual Language Acquisition

This study focuses on a toddler and her process of acquiring two languages simultaneously. Therefore the theoretical core of this study is Bilingualism and Bilingual First Language

Acquisition. In very simple terms, Bilingualism is the ability to use two languages. However, this term can be used to describe people with very different linguistic characteristics and language behaviour. Consequently, there are many types of bilingualism, depending on proficiency level, context and purpose. For example, Grosjean (1982) refers to bilingualism as using both languages simultaneously, whereas others like Weinreich (1953) refers to it as alternating between the two and using only one language at any one time. Ellis(1994) defined bilingualism as "the use of two languages by an individual or speech community" (p. 694).

2.2.1 Different Types of Bilingualism

Within the different attempts to define bilingualism, the term has been categorized, classified or described in different groups as it was described above. Mackey (1967) suggests that there are four items to be taken into account when describing bilingualism: degree, function, alternation and interference. The degree of bilingualism is related to the proficiency, function focuses on the use of the languages, alternation refers to the ability of switch from one language to the other and interference refers to the extent of which the bilingual keeps the languages apart or mixes them(Romaine, 1995). A summary of the different types of bilingualism can be found on Table 2.2. All these terms are relevant for this study as they all describe the bilingualism of the participant. The participant can be described as a passive/receptive bilingual, compound bilingual and unbalanced bilingual.

Table 2.2

Summary of the classification of bilingualism(Based on Romaine, 1995)

Type of bilingualism	**Definition**
Ideal Bilingualism	Both languages are taught in all domains

Partial Bilingualism	Both languages are taught in speech and written forms but only on language is taught in all domains (other languages are confined to social and home situations)
Balanced Bilingualism	Both languages are functional to the same extent
Unbalanced Bilingualism	There is one language more developed either receptively or productively.
Coordinate Bilingualism	Learning the languages in separate environments, and words of the two languages are kept separate with each word having its own specific meaning.
Compound Bilingualism	Learning the two languages in the same context where they are used concurrently, so that there is a fused representation of the languages in the brain.
Active / Productive Bilingualism	Fluent and productive in both languages to express himself well
Passive/Receptive Bilingualism	No productive control over a language, but able to understand utterances in it

2.2.2 Bilingual Language Acquisition in Early Childhood

Age has often been seen relevant in bilingualism because of the amount of research on the relationship between age and language proficiency at various linguistic levels (e.g. Johnson & Newport 1989, Long 1990). McLaughlin (1978) based his studies on age in order to explain the concept of simultaneous language acquisition. He also explained that simultaneous language acquisition happens when the child receives input from two languages prior to the third birthday and differs from successive acquisition which refers to when the process starts after the third birthday of the child (Ibid, 1978). In the same line of thought, Valdes & Figueroa (1996) defined child bilingualism as the situation where two languages are acquired concurrently before age 3. These definitions will be used for this study since the observation period during which the researcher began to gather data for this study started when the toddler was 30 months old.

2.2.2.1 Types of Bilingual Language Acquisition

There are two common parameters that are used to classify the types of bilingualism: age and order of acquisition. When the child acquires the language from birth, Lambert (1973) defines it as early bilingualism. He also takes into consideration that if the person becomes bilingual during adolescence, this will be considered as late bilingualism. Early bilingualism can be either simultaneous or sequential (Montrul, 2008). Simultaneous occurs "before the linguistic foundations of the languages are in place" (Idem, p.17), as it was defined in section 2.1.1, the two languages are developed at the same time as two first languages. On the other side, sequential bilingualism happens "after the individual has acquired basic command of the first language" (Idem, p.17).

2.2.2.2 Main concepts in Child Bilingualism

Following there is a short description of some concepts in child bilingualism that are a relevant part of this study due to their occurrence within the observations period. These concepts are a normal occurrence in previous studies on child bilingualism and they are repeated in different studies using different approaches.

a) Language Mode and the Complementary Principle

The complementary principle is an important contribution in understand the bilingual mind. Grosjean (1982) defined the complementary principle as the fact that bilinguals usually acquire and use their languages for different purposes, in different domains of life with different people. Inside the mind of the bilingual, many psychosocial and linguistic factors affect the process of deciding which language to use and how much of the other language to be left out. Most of the times, this happens unconsciously. Many reflections from bilinguals have reported on having a different way to speak when talking to monolinguals compared to their conversations with bilinguals. This occurrence is known as language mode and

defined as "the state of activation of the bilingual's languages and language processing mechanisms at a given point in time" (Grosjean, 1999, p.3). Language mode has been rarely investigated in traditional language acquisition research. However, there are studies of Genesee, Boivin & Nicoladis (1996) and Lanza (1992) which have given more attention to this phenomenon. Their findings support that children are more in a monolingual mode with parents who do not mix language much while they are more in a bilingual mode with parents who mix languages to a greater extent (or at least accept language mixing). A description of the observation of this phenomenon in the participant's behaviour will be described in Chapter 5 as *Additional findings.*

b) Code switching, Code-Mixing and Borrowing

Firstly, it is important to note that the term code has been used interchangeably with the term language by some scholars (Muysken, 2000) but others (Alvarez-Caccamo, 1998; Gafaranga and Torras, 2001) separate the two notions. In my thesis I have used both code and language interchangeably, therefore English and Spanish are codes in the sense of being two separate linguistic systems. With this in mind, code switching can be defined as the use of elements (phonological, lexical, morph syntactic) from two languages in the same utterance or stretch of conversation (Myers-Scotton, 2006). In bilingual language acquisition, code switching has been seen as a phase known as code-mixing where bilingual children mix two or more languages in speech (utterance or conversation). In the past, it was also believed that language-mixing happened because bilingual children did not have the ability to differentiate the two languages yet (Koppe & Meisel, 1995, p.277). In contrast, recent studies that have conducted deeper analysis of this phenomenon reveal that bilingual children have a separate linguistic system for each language. Specifically, they

can differentiate between their two languages in lexicon, syntax, phonology and they are able to choose the appropriate language according to language context, especially when they are code-mixing (Genesee, Nicoladis & Paradis, 1995; Quay, 1995; Meisel, 2000; Paradis, 2001; Genesee, Boivin & Nicoladis, 1996). In code-switching, the bilingual alternate from the grammatical system of one language to the other while in borrowing use the grammatical structure of one language only (Poplack &Meechan, 1998). However, it is difficult to draw a border between these concepts, and not all scholars in the field admit to a difference. When the observations of the study reported in this thesis began, the child was 30 months old, and therefore in the process of developing the grammatical systems of both languages. This makes even more difficult to draw a line of distinction between the terms. During the observations period, only code-switching was observed as it was defined above. The description of the occurrence is described in Chapter 5.

c) Language Dominance and Language Preference

The notion of language dominance is often defined in terms of proficiency. A dominant language is that "in which the bilingual is informally considered to be proficient" (Petersen, 1988, p. 487). However, we can also define it in terms of language preference. In some situations, children are reluctant to use a certain language. If this behaviour is systematic, the language that the child is more willing to speak is considered to be dominant (Saunders, 1988). This situation is known as language preference. It is important to understand these terms as they will be fully used in the interpretation of the results in Chapter 4.

Language dominance can be better understood as a property of the bilingual mind and an expression of language knowledge. The term of language dominance has been used

repeatedly in the research of bilingual language acquisition. However there is no definite consensus on the definition and measurement of this concept.

The input provided to bilingual children is divided so that the exposure to each language is lower than that given to a monolingual child as she receives the input as a whole (Genesee& Paradis, 1996). When the input given to bilingual children is not balanced, one of the languages might develop faster or be more complex at a given age. That language is known as dominant. The measurement of such language dominance at a given stage of development is a complex issue whose research is still emergent. Baker and Prys Jones (1998) noted that "in the majority of bilinguals one language is more dominant than the other" (p. 12). Yet, this situation is quite dynamic and changes over time easily in bilingual children and is triggered by situations such as changes in the home and school environments.

d) Language Differentiation

A central debate in bilingual first language acquisition concerns whether a bilingual child develops her languages as one system or as two separate systems that interact with each other. Language differentiation deals with the awareness of separating the languages the child is acquiring. As it was explained in the code-switching section, the most recent research on bilingual first language acquisition has shown that children are able to differentiate their languages phonologically, lexically, syntactically, and pragmatically as young as two years of age, and possibly earlier (Nicoladis & Genese, 1997). Pragmatics is seen as the only domain in which there is any evidence of a possible lack of differentiation. In other words, the child is constantly choosing the "right" language to use with particular

interlocutors. An example of this occurrence in the observed child of this study is to be explained in Chapter 5, among other relevant findings.

2.2.2.3 Parental Discourse Approaches used in Bilingual Language Acquisition

There are several possibilities for raising a bilingual child. Some have been documented extensively and others not. The different discourse strategies take into consideration the role of the majority/minority language, the consistency of using one language at home or within the community, that is, the time and place of using a specific language. But most importantly, all the discourse strategies consider the interaction of the parents with the child. For Romaine (1995, p.193) the "interactional patterns" are of great importance since they are provided as input in the acquisition of the language. Kielhöfer and Jonekeit (1983) considered the interaction style parent/child as a factor influencing the bilingual acquisition process. However, Lanza (1992) was the first researcher that specifically examined the relationship between parental discourse strategies in interactions and the subsequent language patterns in the child.

Following there is a brief description of three approaches used in child bilingual language acquisition which are relevant for my study:

a) One person, one language

The "one person, one language" approach is a method where each parent consistently speaks only one of the two languages to the child. The term was first used by the French linguist Maurice Grammont (Barron-Hauwaert, 2004) . In his book *"Observations sur le langage des enfants*" (Observations on Children's Language) he explained that if from the beginning, the parents separated the two languages used with the child, this action would

eventually lead to the child learning both languages while avoiding confusion and the mixing of languages(Grammont, 1902). Some years later, Ronjat (1913) would use the same approach when documenting the language acquisition of his own son. Another linguist, Werner Leopold (1939) published in four volumes the research findings that resulted from the same procedure while raising his children bilingually. He reported similar results to the ones of Ronjat (1913) and Grammont (1902).

Until recently, many studies favoured the one-parent one language approach as the best method to implement bilingualism. Parents raising bilingual children have often been advised to use a one person–one language approach as the only method. This input condition, has been argued, as a necessary condition for children to learn to speak two languages (Taeschner, 1983). However, the latest research shows that, the one person–one language approach appears to be neither a necessary nor a sufficient condition to ensure bilingualism (De Houwer, 2007; De Houwer, 1995; King & Fogle, 2006; Yamamoto, 2001).

A reported common occurrence in the one parent-one language approach was that the child would eventually understand both languages but she will speak only one language, which is language used in the community where the child lives. Most sociolinguistic studies based on this approach, refer that it is actually very difficult that the child to be productive in both languages, especially when the minority language does not receive support from the community (Romaine, 1995). In these situations, the child is actively choosing to use only one language even though she is capable of being productive in both.

b) Mixed languages

In this approach, the parents are bilingual and one or both parents switch and mix languages with the child. For example, in this approach, parents are continually using elements from two languages in the same sentence. This approach is seen as the rarest used in bilingual families. However, recent studies show the opposite. According to a study conducted by Krista Byers-Heinlein (2013), language mixing is a common interaction between bilingual parents and their children. As a matter of fact, "90 per cent of parents reported mixing their languages in interactions with their children" (Ibid, 2013). In this study, parents had different reasons for mixing their languages: borrowing words from the other language when lacking a proper translation, difficulties when pronouncing a word and uncertainty in the meaning of a word in one language. But mainly, parents used language mixing when teaching new words to their children in the other language. Parents might use language mixing as a strategy to make sure their children learn words equally in both languages.

c) Non-Native Parents raising Bilingual Children

This particular approach is very important for this study as it is the one that the researcher/mother is using from birth with both of her children. In this approach, parents have the same native language, which is also the language of wider communication in the community. However, one parent or both parents always talks to the child in a language in which they are native. The most famous documented cases are those of Saunders (1988) and Döpke (1992). George Saunders, a native speaker of Australian English, described in details how he succeeded in bringing up his three children in German and English, in Australia, even though neither he or his wife were native speakers of German. Saunders' children therefore had no contact with monolingual speakers of German and very rare encounters with German monolingual speakers. Döpke studied a similar situation: the

English and German speaking families she observed in Australia included some for which German was not a native language of either parent. Other successful stories are those of Kielhöfer and Jonekeit (1983) with French and German in Germany, and Taescher (1983) with German and Italian in Italy.

The reasoning behind choosing only three parental discourse approaches is based on the fact that those three approaches summarize the family environment of this study:

a) One parent-One language: mother/researcher addresses the child in English, father in Spanish

b) Languages mixing: Mother/researcher switches back to Spanish to address the child in some specific situation as well in social situation outside the family home and father might speak some words in English to child

c) Non-Native Parents: This situation better describes the setting of the family environment of my study.

2.2.2.4 Cognitive Benefits to Early Bilingualism

Language acquisition involves different cognitive processes (Bialystok, 2001). In Bilingual First Language Acquisition, the complex process of acquiring two different language systems creates a particularly strong demand for attentional and executive control (Costa, Hernández, & Sebastián-Gallés, 2008). This need to control attention to the target system influences bilingual children both cognitively and linguistically. The study of cognitive styles, specifically, styles of learning and thinking suggests that bilingualism alters the way that individuals conceptually structure information (Bialystok, 2001).

In the past, bilingualism was considered disadvantageous. The research conducted on bilingualism in the first half of the twentieth century had focus on whether bilingualism had a negative effect on intelligence (Hakuta, 1986). For example, Weisgerber (1966) stated that bilingualism could impair the intelligence of a whole ethnic group. A major study of this sort was that of Saer (1924). The results of his study show a negative correlation between IQ and bilingualism. He concluded that by comparing monolinguals and bilinguals in rural and urban settings, bilinguals in rural areas had a lower IQ because the children had emotional conflict between their two languages. Similar studies shared the same thinking and reflected the general views of that time. This research had an influence on attitudes towards bilingualism in education. Some educators used to advise immigrant parents, mainly in the US, to speak to their children only in English and even suppress exposure to the other language (Please refer to 2.2.3.2). Therefore, for a long time, parents and teachers worried that early-age bilingual exposure would impair and delay children's cognitive development (Bialystok, 2008).

Recent research has been more balanced in focusing on all aspects of bilingual development and functioning. One of the first studies that show a positive view on bilingualism was done by Peal and Lambert (1962). Their Canadian comparison of bilingual and monolingual children with the same economical background concluded that bilingual children performed better than monolingual both in verbal and non-verbal intelligence tests. Most current research suggests that the acquisition of more than one language entails advantages in several cognitive areas. These studies concluded that bilingualism enhances the development of many cognitive skills, such as an enhanced cognitive flexibility, stronger attentional and executive control, a greater metalinguistic

awareness and enhanced creative skills. For example, Vygotsky suggested that apparently bilinguals are better into accept arbitrariness, as they are well aware that there exists more than one language; an idea which is embodied in their bilingualism (as cited in Hakuta, &Diaz, 1984). In other overviews, Carlson (2005), Kopp (1982), Zelazo and Muller (2002) commented on children making gains in thought, emotions, and behaviours, particularly in the preschool period. A very recent example is that conducted by Lauchlan, Parisi & Fadda's (2013). They conducted a study comparing bilingual to monolingual children in terms of cognitive control, problem-solving skills, metalinguistic awareness and working memory. Their results confirm that bilingual children outperform monolingual children in each of these cognitive tests. Many other studies have similar findings. In broad terms, this research show great consequences of Bilingual First Language Acquisition in the cognitive development of children such as an "enhanced cognitive control, better metalinguistic awareness, improved mental flexibility and greater creative skills"(Asbjørnsen, 2013).

2.2.3 Previous Research relevant for this Study

Bilingual children have been the most important source of information on the study of second language acquisition. There have been published research of diarists following closely bilingual language acquisition in infants and toddlers (Ronjat, 1913; Leopold, 1949; Halliday, 1975) which are the backbone of SLA studies. However, most of modern child language acquisition research had been focused on the (monolingual) acquisition of English. In terms of Bilingual Language Acquisition, much of the recent research on bilingual development had focused on comparisons of bilingual children to their monolingual peers. Most of this research had mainly originated in Canada and the USA,

due to these countries patterns of large immigration and has been conducted in bicultural homes in the United States (Pearson, 2007; King & Fogle, 2006; Lyon, 1996), in some describing the process of language acquisition of children of immigrants (Henry & Apelgren, 2008) and the context of the acquisition of both languages (Valdés, 1998).

Consequently, in this section my intention is to present relevant previous research on BFLA which is specific to the characteristics of this thesis. The specificity of the following studies is especially important as it helps to create a panorama of comparison and contrast to this dissertation.

2.2.3.1 Research on the Relation between Input and Comprehension and Production

Research comparing bilingual and monolingual children addresses different criteria to perform such comparisons. An important factor which might be responsible for differences in the language skills of bilingual and monolingual children is the exposure to both languages. Research in these instances has defined input as one of the most significant factors in predicting language skills (Hoff, 2006; Hoff et al., 2012; Pearson et al., 1997). It has been described how these skills in children change as much as the input they receive. For instance, children with reduced opportunities to speak/hear their home language have a change in their receptive and productive language skills in their home language. A common example of this occurrence is when Latino children in the USA may go from a bilingual Spanish-English home (or sometimes even Spanish only home) to a structured environment such as education settings where English is the primary (and sometimes only) language for communication. As a result, children have less contact with Spanish and they stop

acquiring Spanish vocabulary and stop speaking Spanish in social situations (Anderson, 2004).

Some studies addressing the implications of language exposure include that of Pearson et al.'s (1997). This study show that the number of words bilinguals learned in each language was essentially proportional to the time children spent with speakers of each language. The age range of the 25 Spanish-English bilingual toddlers participants of this study vary from 8 to 30 months. A more recent study, Paradis (2011) examined internal and external factors as predictors of vocabulary and verb morphology in 169 bilingual children in Canada (with different second languages, as these vary in this region). The results indicated that as a group: language aptitude, age, first language typology, length of exposure to English and richness of the child's English environment were all significant predictors of acquisition. However, an intriguing finding was that the internal and external factors had a different degree of prediction in the bilingual children's skills. Internal factors (in the study referred as phonological short term memory and non-verbal IQ) predicted more variation in vocabulary and verb morphology acquisition than external factors (Length of exposure to English, proportion of English spoken in the home, maternal education, maternal fluency of English and richness of English environment outside of school). Even though, Paradis (2011) found that internal and external factors influence bilingual development, the amount of input necessary for bilingual children to score comparably to monolingual children is still unknown.

Thordardottir (2011) examined the relationship exposure-acquisition in French-English bilinguals in order to define whether exposure to a certain language may influence the rate of acquisition differently for production than for comprehension. After examining

84 monolingual and bilingual toddlers, Thordardottir (2011) found that bilingual children scored comparably to their monolingual peers in measures of receptive vocabulary, but were significantly behind in expressive vocabulary. These findings suggest that more exposure is needed in order for bilinguals to match monolingual standards in production than is needed for comprehension.

2.2.3.2 Research on Bilingual Language Acquisition in Mexico

In order to consult previous research conducted on language acquisition in Mexico, the CHILDES database on the acquisition of Romance languages was consulted. All of this research focus on monolingual acquisition, such as that of Silvia Romero-Contreras (2011) of the University of San Luis Potosí, Karina Hess Zimmermann (2003) from El Colegio de México and Jackson-Maldonado, D. & Thal, D. (1993) of the University of Queretaro. One singular study is that of Rosa Graciela Montes (1987) Universidad Autónoma de Puebla where she documented the language development of her own child as a monolingual living in a bilingual home with parents with different Native Languages.

Most research on bilingualism in Mexico follows two main topics: indigenous bilingual education (Barronet, 2009;Gomez & Bermúdez Urbina, 2015;Miller, 1983) and studies on bilingualism with the focus on indigenous languages or local dialects(Benavides, 2002; Smith, 2003). However some studies follow the relationship of bilingualism in Spanish-English in Mexico and its economic, educational and cultural implications (Alarcon & Heyman, 2014; Cortez & Jáuregui, 2004).

Even when there is still a limited amount of research on Bilingual First Language Acquisition in Mexico, the studies that have been done are truly meaningful. A very recent

case study was conducted by Scyner (2014). In his Masters dissertation, he followed the simultaneous bilingual acquisition of his own child's language development. The child was exposed to both languages from birth since the father/researcher is British and the mother is Mexican. He described key observations such as lexical development, code-switching and syntactic development. Another significant study was conducted by Granados (2013), a dissertation comparing language acquisition of Spanish to the acquisition of Japanese as a second language. As detailed above, studies describing the Mexican context of bilingual acquisition in toddlers raised by Non-Native Parents (See 2.2.2.3) are very rare. This study intends to address this issue by contributing to the current state of knowledge about bilingual acquisition within the Mexican context.

2.3 The Role of the Environment on Bilingual Language Acquisition

As has been described in this chapter, the study of BFLA is full of mixed and contradicting views. One question frequently asked is whether the language used by adults has an impact of the language acquisition of children or if the children essentially learn by themselves, known as the *nature versus nurture* controversy. However, there is no doubt that environment plays an important role in learning a language. There have been few but dramatic cases of children brought up in isolation known as "feral children". Full studies have been conducted on the language acquisition of those cases, such as the case of Genie (Curtis, Fromkin, Krashen, Rigler& Rigler, 2004) and that of Victor, "the wild boy" from Aveyron (Itard, 1962). These cases have shown that social deprivation has a severe and negative impact on language development, to the extent that normal language skills are never acquired.

In this section, I am presenting the role of context within Bilingual First Language Acquisition, including a description of the role of the parents, input provided by TV and other media and finally a comparison between a monolingual and multilingual societies.

2.3.1 Language Exposure

It is true that children learn rapidly from exposure to language, in ways that are unique to humans, combining pattern detection and computational abilities (often called statistical computing) with special social skills. Psycolinguistics-innatist models support a view that exposure to adult language suffices to provide the child with a database of linguistics information. Computational learning indicates that infants learn simply by being exposed to the right kind of auditory information — even in a few minutes of auditory exposure in the laboratory. I have divided the exposure provided to the child in this study in three main categories: Family environment, social environment and input to exposure in TV, Music and Internet.

a) Family environment

Stork and Widdowson (1974) point out that there are two main factors involved in language acquisition: 1) The human potential for acquiring the language and 2) the linguistic environment. The most immediate linguistic environment of the child is that of her own home. Successful children raised to speak two languages very much depends on the parental language input patterns(De Houwer, 2007). The family environment is an important factor in language acquisition which have an enormous effect on the

development of the language of a child. For example, we can find contrasting environments with different attitudes to bilingualism. Cortez and Jáuregui (2004), compared the attitudes towards bilingualism in their families by a a Mexican-American family in Arizona and a Mexican family in Sonora. The Family of Arizona felt more prone to losing their ethnic identity and native language. In contrast the Mexican family perceived the learning of English as an advantage. Without a doubt these attitudes have an effect on their bilingualism.

However, there are children who even when they grow up in a bilingual environment from an early age do not learn to speak the languages they hear. In some cases, they may speak only one language even with a parent who speaks another language to them (Lyon, 1996; Siren, 1991; Yamamoto, 2001). A study by De Houwer (2007) concluded that children growing up with two languages invariably learn to speak the majority language. The minority language is the one that is at risk of not being spoken. To summarise, parental interaction is by far the most influential factor in Bilingual Language Acquisition.

b) Social Interaction

The social interactionist theory pretends to provide an explanation of language development emphasizing the role of social interaction between the developing child and linguistically knowledgeable adults. It is based largely on the socio-cultural theories of Soviet psychologist Lev Vygotsky (1986). The link between bilingualism and the social context of acquisition is particularly important for this study since the social interaction of the child to this day has been conducted only in Spanish. This has been documented in other studies when only one of the two languages that is being acquired was spoken in the

community outside the family (Ibid, 1994, p.64). In this aspect, it is important to keep in mind that learning one, two or even more languages involve a series of linguistic structures. The child acquiring these languages has learn how to use the linguistic code to communicate and interact appropriately and effectively with others in society.

Society can be an important influence in language acquisition, bilingualism and attitudes towards these concepts. It even can work against parental input and the success in raising actively bilingual children (Hammer, Miccio& Rodriguez, 2004; Portes & Hao, 1998). For example a study conducted by Goodz (1994), claimed that sometimes the two languages which children were exposed to, were spoken by people in the surrounding neighbourhood. Romaine (1989) considers that attitudes of extended family and friends can affect the bilingualism degree of the child. Saunders (1982) shares the idea of family support and adds the surrounding population as another encouraging factor to child bilingualism.

C) Input to Exposure: Music, TV and Internet

There are additional factors within language exposure which are considered in the literature as less important in the bilingual acquisition process (Rice, 1983), these are the exposure to Music, TV and Internet.

Music is thought to improve listening and oral language skills, attention and memory, and to increase complex thinking (Hill-Clarke& Robinson, 2003). The main exposure to music provided to the child of this study is given through nursery rhymes. The child also is exposed to commercial music both on conventional radio and internet radio (Spotify, version 2014). Songs, lullabies and rhymes are examples of a special speech type. Both in Spanish and English, the melodies and inflections would prepare the child's ear,

voice and brain for language (Blythe, 2011). Research on early literacy affirms a link between nursery rhymes and children's early language skills and later reading abilities (Bryant, Maclean, & Bradley, 1990; Bryant, Maclean, Bradley, & Crossland, 1990; Strickland & Shanahan, 2004; Yopp & Yopp, 2000). However, it is important to notice that children's response to live music is different from recorded music. Toddlers are particularly responsive when the music comes directly from the parent. By singing along with a parent the child develops reciprocal communication (Blythe, 2011).

Exposure to television in young infants and toddlers has had mixed opinions from very early. Television viewing has been associated with delayed language development (Chonchaiya & Pruksananonda, 2008). However, the current technological advancements and the focus that modern programs have today on younger children makes it increasingly important to investigate what is the impact that exposure to television has on the language development of children at an early age. Infants are exposed to shows like *Baby Einstein* (Boccella, 2003) and toddlers to *Dora the Explorer* or *Sesame Street* among others. There is sufficient evidence on the learning of skills (number recognition & new vocabulary words) from these programs (Rice, Huston, Truglio, & Wright, 1990) bypre-schoolers. Pre-school children (between 2 and 5 years old) have been shown to acquire new words by watching TV (Rice, 1983, 1984). However, it appears that children do not effectively learn grammar from television (Selnow & Bettinghaus, 1982). As it happens in language acquisition through the exposure to music, a live interaction is needed for the child to actually learn. In word learning, the caregiver must provide the child with salient and varied opportunities for the child to associate the new word with a particular object, for example using child-directed speech (Baldwin, 1994; Naigles & Hoff-Ginsberg, 1998).

The evolution of media and technology has developed quite rapidly. The availability of these portable technologies has changed society. The impact has been rapid and widespread. That is the reason why there is little research on the use of IPads and Mobile phones technology in language acquisition. As it happens with television, Mobile technology is perceived very differently by language scholars. Some have research positive effects on language impaired children (Cumming, 2013) and in education (Ireland & Woollerton, 2010). Other have discourage the use of mobile technology because this has negative effects (Chu, 2014). In a positive view, technological tools can be very effective for dual language learners because they provide access to home language/culture andat the same time supporting English language learning(Nemeth & Simon, 2013). However, in order for technology to be developmentally appropriate for children acquiring a language, it should be responsive to the age and developmental stage of the child(McManis & Gunnewig, 2012). The results on the exposure to these three media are presented in Chapter 4.

2.3.2 Language Use within a Community

Language socialization is a life-long process and involves the journey of each person to become bilingual or language literate. Although socialization is universal, the content of socialization varies widely across cultures (Ely & Gleason, 1996). Despite the context, the goal of socialization is always to promote communicative competence (Hymes, 1972), that is, the ability to use the language in an appropriate manner within the surrounding community. In broader terms, these are the interactional rules of language. Crain and Lillo-Martin (1999) summarise that even children living in the same linguistic community

(learning the same language) may have a wide variety of experiences with language and yet they all learn the same language spoken by the community. In language acquisition, a recent study has proven to be of remarkable importance in terms of language socialization. MIT researcher Deb Roy (2011) presented in a TED talk the results of 3-year long recordings (over 90,000 hours of video) in the process of language acquisition of his own son. This study (Roy, Roy, Frank, DeCamp& Miller, 2015)shows how some words are easier to learn depending on the "distinctive spatial, temporal, and linguistic contexts" (Ibid, p.1) where they are produced. Therefore, both the multimodal and the social context are very important for the child to acquire new words, as well as the role of the quality of input in the Language Acquisition process. The following section details this interaction as it describes Bilingual First Language Acquisition both in a Monolingual and Multilingual community.

2.3.1.1 Multilingual community

A multilingual community or society is shaped by the acceptance and incorporation of different languages, and in some instances dialects, by the members of this community. The balance between all these languages changes continuously as some bilingual communities might add languages according to the migration to this society, for instance. In such communities there are different views on bilingualism. Positive views are accepting of changes and negative views are discouraging bilingualism due to fear to lose their identity and their culture. Crain and Lillo-Martin (1999) noted that in communities where more than one language is spoken, "children acquire all of the languages in the community" (Ibid,

p.7). They claim that language is in function of input, but it is not clear how close this relationship is.

2.3.1.2 Monolingual community

Romaine (1995) compares the bilingual lingual acquisition of children in monolingual societies to Elite bilinguals (Skutnabb-Kangas, 1984) where the person has the choice of actually become bilingual or to avoid it. However, in these instances the child feels pressure to learn the language of the society and might be also under "internal family pressure" to keep the home language (Romaine, 1995, p.25).

Bilingualism is by far not a rare phenomenon, however it might be perceived as such in monolingual societies. A monolingual society might show less accepting attitudes to bilingualism when this occurrence is rare within the society. Even sometimes bilingualism is seen as related to socio-economic factors which have a consequence on the views from society.

Over and above the studies mentioned in *2.2.2.3 – c) Non-Native Parents raising bilingual children*, there are some instances where parents have raised successfully bilingual children even within a monolingual society. One famous early study of was conducted by Pavlovitch (1920), who presented one of the first longitudinal case studies of bilingual acquisition of a child of Serbian-speaking parents in France. A most recent example of this incidence is the work of Stephen Caldas (2006). His work described the language development of his three children over the course of 19 years. Caldas is a native English speaker and a non-native speaker of French. His wife is a native French speaker but also fluent in English. Their three children were raised in a French-only environment by

adopting a family language policy of speaking only French themselves despite living in a monolingual community.

2.4 Conclusion

This chapter mainly dealt with topics and areas in Bilingual First Language Acquisition that are important in understanding the results and analysis conducted in this thesis. Having presented in this chapter the literature review related to the present study, it is now time to turn to the description of the methodological framework in Chapter 3. In the following chapter, this thesis will describe the instruments, procedures and analysis conducted in this study.

CHAPTER 3: METHODOLOGY

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3.0 Introduction

Based on the objectives of this research, as seen in Chapter 1, a case study was chosen as the appropriate research design. The overall purpose of this case study is to observe a toddler's bilingual language acquisition within a monolingual community. This will be done by observing the commands that the toddler acquires and their relationship to the exposure to two languages.

This chapter provides a complete explanation of the reasoning behind the decision to follow a mixed method approach and a case study design. Firstly, a detailed description and justification of the overall research method and design is found. Secondly, there is a full description of the participant, including the background and context of this toddler. Thirdly, there are descriptions of the data collection procedures and techniques as well as the relevance and setbacks of the methodology. Fourthly, the following part describes the data analysis. Fifthly, the strengths and limitations of this methodology can be found. Finally, the ethical issues of this type of study and the implications when working with very young children are discussed.

3.1 Relating the choice of the methodological approach to the aims of the thesis research design

Mixed method research has been used extensively in social science studies as early as the beginning of the twentieth century(Dörnyei, 2007). In social research, mixed method is seen as synonymous for combining data sources and research approaches such as naturalistic and experimental, in order to study the same phenomenon. The greatest advantage of this approach is that the study can benefit from an improved level of validity.

The evidence derived from the quantitative part of the study can be used to corroborate findings in other studies. There are many studies that have combined the qualitative and quantitative approaches in applied linguistics; however, this particular approach has some weaknesses that make it less appealing in language acquisition studies. The major flaw in this approach is that the researcher could tend to neglect the "sharp conceptual thinking and insightful analysis" (Hesse-Biber & Leavy, 2006, p. 334) that are characteristics of a pure qualitative approach. Although my study was meticulously conducted using a mixed method approach, which involved recording and analysis of numerical data, I was able to obtain very rich qualitative data in the process. The observation of the language acquisition of my child had an impact on the theory I had read and made reflect on the results of my study.

3.2 The overall research design

There have been different research approaches in the study of child language acquisition. Some clear examples of the diversity in child language research can be found in The Child Language Data Exchange System (CHILDES database). This corpus was developed by Brian MacWhinney and Catherine Snow of Carnegie Mellon University in order to store and share data on first language acquisition. In the over 130 corpora stored in CHILDES(MacWhinney, 2015), the most representative research designs are: longitudinal studies, cross-sectional studies and case studies.

A Case Study design is the most suitable design to follow the language development of a child. This design is one of several used in social science research. A Case Study is an empirical inquiry that investigates a contemporary phenomenon within its

real-life context, especially when the boundaries between the phenomenon and context are not clearly evident.(Yin, 2009). The study conducted in my thesis involves the appreciation of the bilingual language acquisition of a toddler within a family/social environment which boundaries are difficult to delimit. Yin even suggests that a single-case design is appropriate when studying "critical" or "revelatory" cases (p.45). This design has been seen as a non-scientific approach since it is mainly employed within the social sciences.

There are advantages and disadvantages associated with employing a mixed method design. Among the advantages of this design, we can find that it can be used to collect a lot of detail that would normally be obtained by other research designs. The data collected is richer and deeper than other designs. Another advantage is that scientific experiments can be done within the case study(Yin, 2009). Disadvantages are principally associated with the non-scientific nature of this design. The data collected cannot be generalized to all populations; therefore, findings might not be seen as relevant or specifically useful. In this design, only one data collector might be found which may influence results and might lead to bias in data collection(Stake, 1995).

While recognizing the previously mentioned disadvantages associated with this design, it has been adopted in the current study. This is because this design's advantages outweigh the disadvantages and provide the most appropriate manner in which to answer my research questions. The aim of my study is to find the amount of commands in two languages learned by a toddler over a specific period of time. This has to be done taking into account the amount of exposure to those languages. Therefore, my study requires a qualitative instrument regarding the rich data collected and a quantitative instrument to measure and code the commands and the exposure of both languages.

3.3 Description of the participant

The toddler is the first child of a lower-middle class professional couple living in Puebla, Mexico. All family members have always lived in Puebla. At the time that the observations began, the toddler was living with a baby brother of 6 months of age. The participant was born at full term on January 4th, 2012 with a weight at birth of 3 kg. She has had no major illnesses and her cognitive and physical development are within the normal range for her age. She has acquired language development milestones and psychomotor skills within the standard percentile.

3.3.1 Age and Gender

The toddler was 29 months at the beginning of the observations and when this period finished, the toddler was about to turn 39 months. The period of observations for the present study was conducted from July 2014 until the end of April 2015. This represents 10 months of observations and data recording. The participant is female.

3.3.2 The context of the participant

a) Family background

The mother/researcher has a degree on Business Management from the main public university in Puebla, Benémerita Universidad Autónoma de Puebla(BUAP henceforth) and at the time of the observations was a full-time student in the MA in ELT from the BUAP programme. The mother/researcher speaks three languages: Spanish, English and German, Spanish being her mother tongue. As described in Chapter 1, she acquired English and

German through structured education. She has worked as a simultaneous interpreter/translator in Spanish-English. She has also taught English and Spanish for several years. She is the main care provider for the participant and as such, she is also the main language provider.

The father is a Mechanical Engineer working in the automotive sector in Puebla. He is Mexican and his native language is Spanish. He has a proficiency level of B2 in English and has travelled to the US twice on work assignments. Even though he is not fluent in the language, he sometimes addressed the participant in English. When the parents are absent, the grandmother of the participant is a secondary care provider. She has undergraduate studies in Accountancy, and currently she is a pensioner who lives in her own house. She is monolingual and therefore she only speaks Spanish to the participant.

b) Social environment

Mexico is the most populous Spanish-speaking country in the world. Statistics by the National Instituteof Statistics and Geography(INEGI by its name in Spanish, *Instituto Nacional de Estadística y Geografía*) show that Puebla, the state where the participant and her family have lived all their lives, currently ranks as the fifth largest state in the country. This state is located in the central highlands of Mexico. The family of the participant is Catholic, as well as over 93% of the habitants in Puebla (INEGI, 2015). Puebla is one of the most industrialized states in Mexico. In Puebla, the automotive sector represents 34% of the total manufacturing industry as of December 2014 (Ibid, 2015). However, the development of the state has been centred on the capital city and the surrounding areas. This has caused a

wide economic difference in the rural areas and the city areas.All of this has led to a situation of an important number of emigrants heading to the US.

English is the second most spoken language in Mexico. This phenomenon is arguably being caused by the economic influence of the northern border country: The United States of America. However, globalization can be seen now as a major influence in this situation as well. Due to the geographical situation of cities like Monterrey or Tijuana, American TV and radio in English are broadcast as much as Spanish-speaking radio and TV stations from Mexico on the US side of the border, creating a bilingual cross-cultural exchange in such places. In contrast, Puebla has less English speakers than in border cities (e.g. Monterrey), tourist centres (e.g. Cancun) and larger metropolitan areas (e.g. Mexico City). That being the case, Puebla is primarily a monolingual society.

The participant has not been enrolled in any day-care, nursery or group activity which could imply a social environment with children of her own or even a different age group. Her close relatives, neighbours and immediate social environment that she is exposed to are monolingual.

c) Research settings

This study was conducted mainly in the family home of the toddler. This is the most familiar setting for the toddler. The family home can be described as an average low-middle class Mexican home located in an urban area of Puebla. The participant has been living in this urban home since her birth. The house has all the basic facilities: kitchen, two bathrooms, three bedrooms and a living room. As well as basic services: running water, gas, electricity, phone, TV and internet access. Additional to the family home, the toddler

spends time in the house of her grandmother when the mother is absent. This setting is also an urban home with similar facilities to the family home.

3.3.3 Description of the participant initial language proficiency

The child was acquiring Spanish and English as a first language when observations began. Despite the mother/researcher also speaking German, the participant has been exposed only to Spanish and English. To summarize, the language background of the participant, she has been exposed to both English and Spanish since birth. The Spanish words produced by the child are standard Mexican Spanish. The English words produced by the child are Standard English with no perceivable accent. At the start of the observations period, the participant was 2 years and 6 months old. There were very few words that she could master. She still had problems of clarity in her utterances. She had tantrums originating from the fact that she was unable to communicate ideas and petitions clearly. At that moment, she could better be described as receptive bilingual. However, it is possible to see a tendency of more Spanish words used by her.

3.3.4 Reaction from the participant to the data collection procedures

The toddler reacted fairly well to the period of observations. She did not show any signs of discomfort or seem to be bother by the process of observations. Most of the time, the participant was not even aware of the observations. Having said that, some reactions observed on her behaviour might hint that she was upset when she wanted to continue playing and the mother/researcher was busy recording commands or engaged in taking field notes.

3.4 Data collection

Because of the nature of this study, observations were the principle source for data gathering. Observation is a research method used mainly in qualitative research. The main advantages are that the researcher has first-hand experience with the participant and that the researcher can collect information as it happens. The disadvantages are that the researcher might be perceived as an intruder. As observation relies on the researcher, there can be bias on information and the researcher might not possess good observing skills. Also some participants might present problems with gaining rapport. (Creswell, 2014).

There are different available instruments that can be used to record observations made in the research process. According to Dörnyei (2007), the two main methods to record events based on observations are: *event sampling* and *time sampling*. By using event sampling, I was able to record in a structured manner, the acquisition of new commands by the participant. By having structure in the observations, the process becomes more reliable and thus results can be compared to other similar studies of simultaneous bilingual acquisition. For this study, field notes, a recording sheet and two spreadsheets were adapted to the very specific situation and focus of this case study. Following there is a description of the aforementioned instruments.

3.4.1 Instruments used for the Qualitative Data Gathering

a) Field Notes

Field notes are meant to be read by the researcher to construct meanings and an understanding of phenomenon being studied. Most field notes are recorded as jottings or scratch notes. In this, the observer jots down a few words or short sentences that will help

them recall something they observed, something that someone said or something that happened. These notes are generally written in the field at the moment of the occurrence. Jottings can be translated into field notes once the phenomenon took place.

b) Recording Sheet for Observations

Observational sheets can be useful when data is collected or transcribed from field notes. For the purposes of this study, a template (See Appendix A) was developed in order to easily write down the commands learned by the participant. The date was the first heading to be used. This was done in order to follow up the week/month within the observations period when the command was acquired. The place was also important to track, as it will provide an observable relation to the social context of the acquisition. In the third column, the commands were written down. And finally the last column provided a space for any major comments on the acquisition of the command or other comments. Please find table 3.1 below.

Table 3.1

Recording Sheet for Observations

Field notes (observation)			
Date	**Place**	**Command acquired**	**Observations**

3.4.2 Instruments used for the Quantitative Part

a) Spreadsheet to record the amount of exposure to both languages

For the quantitative part of this study, two spreadsheets were created in order to store and quantify data. Both templates (see Appendix B) were developed using Microsoft Excel (ver. 2013). The first table is based on the data of exposure to both languages. The extreme

columns on the left, provide the month and week number of the period of observations. This period covers from June 2014 – Week 23/2014 until March 2015 – Week 13/2015.

The second part of the table presents the different sources of exposure to either language. Those categories are:

- *TV (Cartoons / movies).* In order to maximise exposure to the same cartoon or movie in both languages, the toddler watches these programmes through the online streaming service of Netflix.
- *Stories / Books reading.* The mother reads to the toddler one particular book with fairy tales in English at bedtime. Other English stories are told using available websites.
- *Parental interaction.* This relates to the time the toddler spends with the parents in normal everyday interactions, this includes playtime and mealtimes.
- *Music / Songs.* Songs learned by the toddler in English are mostly provided by You tube videos of nursery rhymes. Spanish songs have been taught mainly by the grandmother.
- *Social interactions.* This includes activities outside the family home, for example grocery shopping, playtime with cousins and family gatherings. Relatives are only monolingual.
- *Tablet & Mobile apps.* There are some applications and games that encourage the acquisition of vocabulary of English, such as animals, shapes, colours.

The last part of the columns presents the total of hours of exposure to each language per week and the percentage that this represents in a week. In order to obtain these figures, the formula divides the total of hours of exposure per week into the total of hours available per week (168 hours per week).

The spreadsheet (Table 3.2 & Table 3.3) has already an automatic formulating which allows to key in the number of hours in each activity and this provides the percentage of hours exposed to that language in that particular week. There are subtotal lines at the end of every month which present us the percentage of exposure to the language by month and the percentage of hours per each activity per month. Finally, the last row presents the average of hours per each activity (in percentage) and the percentage of exposure to each language during the whole study.

Table 3.2

Spreadsheet to record exposure – Majority Language

Majority Language (Spanish)										
		TV (Cartoons / movies)	Stories / Books reading	Parental interaction	Music / Songs	Social interactions	Tablet& Mobile apps	Total of hours	Percentage per week	
	Week 23 /2014							0	0%	
	Week 24 /2014							0	0%	
	Week 25 /2014							0	0%	
Month 1 (June)	Week 26 /2014							0	0%	
Total Month 1		0%	0%	0%	0%		0%	0	0%	

Table 3.3

Spreadsheet to record exposure – Minority Language

Minority Language (English)									
		TV (Cartoons/ movies)	Stories / Books reading	Parental interaction	Music / Songs	Social interactions	Games Tablet& Mobile apps	Total of hours	Percentage per week
	Week 23 /2014							0	0%
Month 1 (June)	Week 24 /2014							0	0%

	Week 25 /2014							0	0%
	Week 26 /2014							0	0%
Total Month 1		0%	0%	0%	0%	0%	0%	0	0%

b) Spreadsheet to keep track of the total of commands acquired by the toddler

This spreadsheet (Table 3.4 below) uses the information collected by the observations, in order to record the number of commands acquired in English and Spanish per month. The last row sums up the total of commands in both languages acquired during the period of observations.

Table 3.4

Spreadsheet to record number of commands

Recording of number of commands learned		
	No. Commands learned in Spanish	**No. Commands learned in English**
Month 1		
Month 2		
Month 3		
Month 4		
Month 5		
Month 6		
Month 7		
Month 8		
Month 9		
Month 10		
TOTAL	**0**	**0**

3.5 Data collection procedure

The data collection lasted 10 months when the participant was between 2 years 5 months and 3 years 3 months. These data consisted of field notes, observations and registering data in two Excel spreadsheets. The mother/researcher kept notes on the observations on a daily basis. The daily routine of the child normally involved pretend play, TV watching, having

meals, bath time, games playing on the mobile or IPad, book reading and bedtime, among others.

3.5.1 Description of the procedure

The researcher designed a system for data collection including the instruments to be used. During the observations period, jottings were used in different settings and using different mediums. The most important utterances, commands learned, or any specifically great progress in acquisition in either language were recorded in notebooks but mainly in the memo utility available in the mobile phone of the researcher. Afterwards, the jottings were transcribed in the computer within a word processor with a detailed and coherent description of the observations. When preparing these field notes, the process of transcription does not only improves memory retention but also helps identify other themes which could be pursued in further research.

In order to complete the spreadsheet for language exposure, the researcher had to calculate the number of hours spent on each activity. Through this follow up, the researcher became aware of the hours per week the child was exposed to a particular language. Based on the results of the first weeks, the researcher was able to change strategies in order to increase the exposure to English. Once the period of observations was completed, the spreadsheet and the main observations were available for data analysis. This process included the creation of graphs and a coding of commands that are further explained in the data analysis section.

3.5.2 Relevance of the procedure for this particular study

The particularity of this case study is that the role of the researcher is carried out by the mother of the participant. This situation does not only provide a double role to the researcher but also ensures first hand data. The researcher as data collector and observer creates assurance in the information provided in the context of the participant. This procedure represents a good example of discipline. The recording of everyday data provides a significant contribution to the knowledge on bilingual first language acquisition and most importantly it represents a solid basis for the data analysis that was conducted after the procedure finished. Undoubtedly, this procedure also represents some challenges as described below.

3.5.3 Major challenges found in the procedure

Due to its nature, this procedure proved to be very detailed and demanding. The procedure required a high level of commitment and organization from the researcher. The procedures on data collection required concentration on the behaviour of the participant and a close look to the main interactions the child has with other care providers and with the baby brother. Sometimes, the researcher had problems in registering a command or a significant observation in the moment of the observation itself. The researcher used jottings in order to remind herself and even used the audio recorder or the memo application on her mobile phone. The researcher cannot rely on memory to safeguard data which might be proven to be very valuable during data analysis. The data had to be registered in the moment as the conditions and characteristics in observations cannot be repeated, the toddler continues to grow and her language development will never be in the same point again.

3.6 Data analysis

The data analysed in this study was mainly based on the observations of the language development of the toddler. The intention was to condensate the data obtained and then evaluate it using the different techniques. This section is divided in two analysis: Qualitative and Quantitative.

3.6.1 Description of data analysis

Once observations finished, the analysis process started which meant to thoroughly review the information collected on the field notes and the commands acquired by the toddler. As the research method used is a mixed method approach, it was necessary to first analysed the qualitative data in order to use the results to analyse the quantitative data.

3.6.1.1 Qualitative Data Analysis

The first part of the analysis involved reading the field notes and to examine the recording sheets used for the observations. This part is very important because it represents the basis for later quantitative analysis. Over and above the process of registering commands acquired, the analysed observations were useful to obtain other valuable data. One main finding was to understand the context were the toddler felt more comfortable in speaking each language. Another important phenomenon was to observe code-switching and the conditions were the toddler felt it was necessary to do it. Some phonetic differences were observed in the first acquisition of new words in both languages. For example, in English the toddler would say start saying "*gaga*" for waterwhich would evolved to "*wata*" and in Spanish she would use "guagua" and that word evolved to "agua" which was clearer for the

mother/researcher to understand than the word in English. The child took longer to obtain the phonetics of the word in English than in Spanish. The fact that the mother/researcher is not a English native speaker might trigger other situations for example, the mother/researcher presented more troubles in understanding new words (not used before by the toddler) in English than in Spanish. These and other findings will be studied in depth in the conclusionschapter.

3.6.1.2 Quantitative Data Analysis

Firstly, it was necessary to count how many commands were acquired in each language per month from the field notes and the recording sheet. With this information, the spreadsheet designed in Excel to count the commands acquired was completed. Within quantitative analysis, the commands obtained were classified in majority and minority language and context of acquisition. In order to provide a better analysis, a table was created to code the commands acquired. The second spreadsheet was filled during the period of observations and in the end, it revealed the exposure to the languages per activity for the 10 month-observations-period. The findings from the table were conclusive to understand that the quality of the input holds a close relationship towards language acquisition, in this case of language comprehension via acquisition of commands. With the aid of graphs and charts generated using Microsoft Excel (Version 2013), a visual representation of the exposure to the languages was created.

3.7 Methodological concerns

Every type of research holds very different concerns for the researcher. Even in very controlled quantitative studies with an experimental approach, there will be issues that represent a threat to the validity and reliability of the study. This section provides an overview of the aforementioned issues and how they were managed in this study.

3.7.1 Strengths and Limitations of this methodology

The main strengths of this study were that it offered higher depth of analysis. Due to the entries on the field notes, there was a better understanding of the acquisition. As mentioned on point 3.3.4, the toddler did not show any signs of distress in direct consequences of the observations. This is very important, especially when working with young children. This study represents a good insight in the child language development and at the same time it specialises on the acquisition of commands. This narrows the study object which facilitates the research process. The quantitative part of the study provides more reliable results, as it will be seen in the following chapter.

The main limitations found in this study were particularly attained to the period of time allocated to the observations. In order to have a broader perspective of bilingual first language acquisition, this study could have benefited from a longitudinal approach. This would mean to repeat this same study in a later period of time and to record progress. Another limitation is having the participant as the only source of data and the researcher to be the main language provider. In here, it is important to mention the challenge of the double role played by the researcher/mother. The objectivity of the researcher can be jeopardise by the relationship she has to the child and it also represents difficulties in terms of handling the data collected.

3.7.2 Reliability and validity

Reliability refers to the "degree of consistency with which instances are assigned to the same category by different observers or the same observer in different occasions" (Silverman, 2005, p. 224). Duff(2008) summarizes this in analysing the consistency of the study. In this study, reliability was addressed by an analysis of the results obtained from the instruments at different points of the study process.

Validity refers to how well a test measures what it is purported to measure (Cresswell, 2014).According to Duff (2008) there are two set of criteria for which validity is the contested principle: one is based on positivist approaches (Miles & Huberman, 1994; Yin R. , 1994) and the other on interpretative approaches (Merriam, 1998; Altheide & Johnson, 1994). In the study conducted in my thesis, validity will be addressed by a reflection on the completion of this study in the last section of Chapter 5.

3.8 Ethical issues

There is no doubt that social research involves the lives of people interacting in society and as such it involves ethical issues. This study, just as many other similar applied linguistics studies, do not pose any significant threat to the participant nor to the observer. Having said that, it is important to highlight some considerations that are relevant to this particular study, mainly due to the age of the participant. Special considerations need to be taken with children as participants in social research, as it is described in the following section.

3.8.1 Ethical issues of research on very young children

As seen on Chapter 2, diarist studies of children are considered to be the basis of linguistics. These studies see the child as the object/subject of inquiries. According to

Graue and Walsh (1998), research on and with young children is a complex, rich and difficult endeavour. However, there is no doubt that just as parenting, research on children is a rewarding venture. Children are a never-ending fountain of data not only for linguistics but for many other fields.

This study presented two main ethical issues associated with the object/subject. The first one is consent. Even though, parental consent in this particular case study is taken for granted because the mother role as researcher, it is important to also consider the consent from the child. When working with very young children it is difficult to fully explain the study to them and seek for explicit consent. However, the consent from the child can be seen as the willingness to participate on an activity. In this study, when the child gave signs that she did not want to be observed nor interact with, such as tiredness, crying, sleepiness etc., the field notes or the recording on the templates for observations were postponed. The other issue in this study is anonymity and confidentiality, which will be discussed in the following section.

3.8.2 Anonymity and confidentiality

Anonymity plays an elementary dilemma in social sciences. It is concerned with the fact of whether the participants should remain anonymous or not for the sake of the study(Dörnyei, 2007). Most case studies following language development in children have face the same dilemma of anonymity because of the nature of the qualitative data. These data can be so intimate, for example, the personal details of the immediate environment need to have a high level of detail that it might be impossible not to trace the real account of the participants.

In this case study, the name of the child will be safeguarded by the researcher/mother. Due to the nature of the role of the researcher, when it exits the need to report on the results of this study in conferences or publications, the researcher is able to guarantee anonymity of the participant and the other people involved such as secondary care providers.

3.9 Conclusion

This chapter provided relevant information that allows a better understanding not only of the participant but also of the instruments, procedures and analysis conducted in this case study. In the next chapter, I will present the results obtained from the data analysis and I will deliver the answer to the research questions introduced in Chapter I.

CHAPTER 4- RESULTS

4.0 Introduction

4.1 Research Question 1 – Exposure to Languages

- **4.1.1 Amount of exposure to both languages during the observations period**
- **4.1.2 Exposure per month**
- **4.1.3 Exposure per item and language**
  - *TV – Cartoons and movies*
  - *Stories & Books reading*
  - *Parental Interaction- Games*
  - *Music & Songs*
  - *Social Interactions outside the family home*
  - *Games & Apps in Tablet and Mobile phone*

4.2 Results RQ2 – Number of Commands acquired in Spanish

- **4.3.1 Commands acquired during observations period**
- **4.3.1.1 Commands acquired in Spanish per month**

4.4 Results RQ3 – Number of Commands acquired in English

- **4.4.1 Commands acquired during observations period**
- **4.4.1.1 Commands acquired in English per month**

4.5 Results RQ4 – Relationship between commands acquired and exposure

- **4.5.1 Correlation found**
- **4.5.2 Analysis**

4.6 Conclusion

4.0 Introduction

While in Chapter 3I discussed the research design and methodological approach, in this Chapter I will present the results obtained from this study. The procedure was already outlined in Chapter 3, along with the instruments to recordthe child's commands acquisition and the exposure to the languages. I will focus on answering the research questions provided in the first chapter and deliver a meaningful analysis of the results derived from the instruments.

This Chapter is divided so that each research question has an individual section. The first three research questions have an individual instrument that provides results to each question. The last research question is answered using the results obtained from the other questions. Finally, this Chapter closes with a concluding section presenting a summary of the results.

4.1 Research Question 1 – Exposure to Languages

Revised RQ1. How much exposure to the majority language (Spanish) and the minority language (English) would the toddler receive during the observation period?

The original research question has been revised in order to have a more complete comparison in line with the research question number 4. The original research question limited the exposure to both languages within an average week and the revised question was changed to cover the whole period of observations in order to have a better comparison to the number of commands acquired, as it will be seen in the analysis of the research question 4. The revised research question (provided above) relates to the amount of exposure to both languages during the observations period. In order for the participant to

learn both languages, she had to be exposed to both languages. As seen in Chapter 2 (see 2.3), much of the literature shows how the environment affects language acquisition in children. Ultimately, the results presented in this section provide both direct (parental & social interaction) and indirect input (TV, Internet, apps).

The results in number of hours of exposure can be seen in Appendix A (Spreadsheet- Amount of exposure). The final results were 1779 hours in Spanish approximately (45%) and 2209 hours in English (55%).As I explained when I introduced my research questions in Chapter 1, by majority language (Spanish) I am referring to the main language used by the society. In my study, English is the minority language because the input in this language is only provided by the mother/researcher and indirectly by media such as TV and Internet. Now the final results show in percentages the amount of exposure that the child was exposed to in both languages.

It has been described as common sense the expectations that the more a child interacts with speakers of a language, the more of that language the child will learn (Hoff et al, 2012). However, it is not obvious how close the association between exposure and learning will be. The following sections shows in graphs (From figure 4.1 to figure 4.8) the amount of hours exposed to each language during the period of observations.

4.1.1 Amount of exposure to both languages during the observations period

After completing the observation period, the results of the amount of exposure were finally complete in the spreadsheet (See Appendix A) which show a panorama of the distribution of input in both languages. After 10 months of observations and data recording, the results merely confirmed what was already established in the description of the family language interaction (See 3.2). Language exposure in this study is measured via the dominance in

one language over another.Dominance of the language can be categorized in three groups, English dominance, Spanish dominance and Balanced Language Exposure. Based on the percentage of exposure during the observations period, we can see a balanced language exposure. This is based on the final results of English having a minimally higher majority with 55% of language exposure and Spanish with 45% of language exposure. Please refer to Appendix B to see a summary of the results.

In Fig. 4.1 we can see the graphic description of the exposure results. The vertical axis represents the number of hours and in the horizontal axis we can see the 44 weeks of the observation period. This graph shows the number of hours the toddler was exposed to each language every week. The blue bars represent the hours the toddler was exposed to English per weeks just as the green bars represent the hours exposed to Spanish per week.

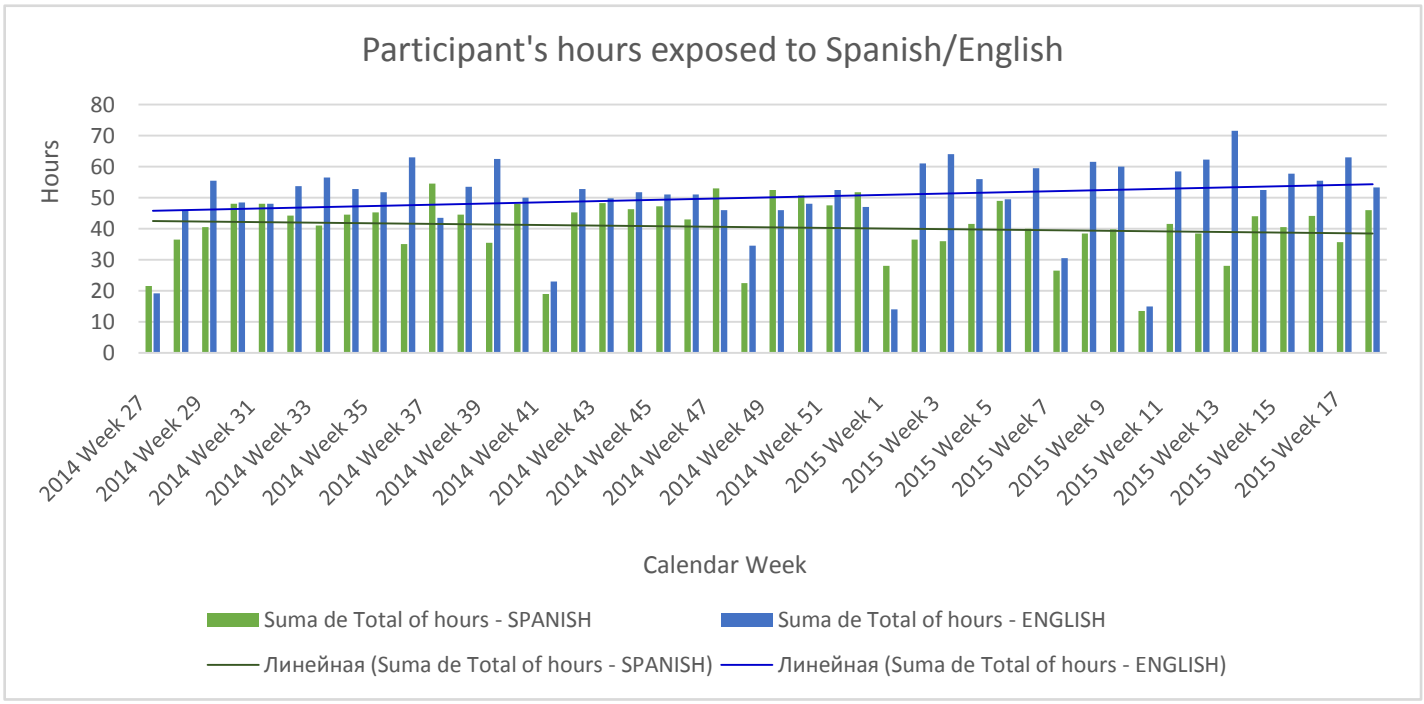

*Figure 4.1.*Comparative of the child's total hours exposed to both languages

The trend is shown in the horizontal lines. As can be seen, at the beginning of the observation period, the contact with both languages was almostidentical. Near the end of the observations period, the difference gap grew. This difference will be discussed in greater depth when the input items are discussed. However, it is important to mention that by having the role of mother/researcher I had the control to moderate the amount of the input of indirect items such as TV and internet. In contrast, the direct input items cannot be controlled by the mother/researcher. For example, the English Parental Interaction (mother)remain constant during the whole period. On the other side Spanish Parental Interaction (father) and social interaction (grandmother & social gatherings) had significant variances.

4.1.2 Exposure per month

As was seen in Fig 4.1, the trend of exposure to the languages started in a very similar starting point. This starting point is represented by the first month of the observationperiod, the child was exposed 30% to English and 27% to Spanish. It is important to mention that the calculations were based on a 24hrs a day – 168hrs per week basis. On average I am contemplating 10 hours a day of sleep at night and/or napping time. If we take out the sleeping/napping time, the grand total for both languages are: 53% exposed to English and 47% exposed to Spanish.

By the end of the observation period, the trending lines show how there was a progressive increase in English exposure and a decrease of the Spanish exposure. This difference is more notable in the last months of the observation period. In Table 4.1 below, we can see a summary of the percentages of exposures per month. The months with the

highest English exposure were September (57%), February (59%), March (63%) and April (57%).

This increased in English exposure in the last months had two main sources. Firstly, the child had gradually mastered, in connection to her physical/cognitive development, the ability to use Internet connected devices (IPad/Apple TV) to choose and watch YouTube videos. Secondly, also as part of a developmental milestone, the participant has increased vocabulary and her verbal communication is clearer which allows a better interaction with the child. The child is now able to have longer and clearer conversations in English and in Spanish with the mother/researcher. This generates a higher amount of Parental Interaction. The decision of the child to use one language over another is described in depth further ahead in the next chapter.Below, please find the aforementioned table 4.1 which displays the exposure per month.

Table 4.1

Summary of results per month

Month		Spanish	English
Total Month 1	July	47%	53%
Total Month 2	August	45%	55%
Total Month 3	September	43%	57%
Total Month 4	October	48%	52%
Total Month 5	November	48%	52%
Total Month 6	December	51%	49%
Total Month 7	January	44%	56%
Total Month 8	February	41%	59%
Total Month 9	March	37%	63%
Total Month 10	April	43%	57%

The month with the highest Spanish exposure is December (51%). The main reason for this was the social gatherings in which the child participated. December's Holidays represented for the participant very rich opportunities for social interaction in Spanish with other children as well as adults. Also in this month, the father had a week off from work which represented a higher amount of Spanish Parental interaction for the child.

4.1.3 Exposure per item

The spreadsheet designed to record the amount of exposure to the two languages (See Appendix A) considered 6 categories which the child had access to gain language proficiency. The following graph shows the relevance of these categories as means of language input.

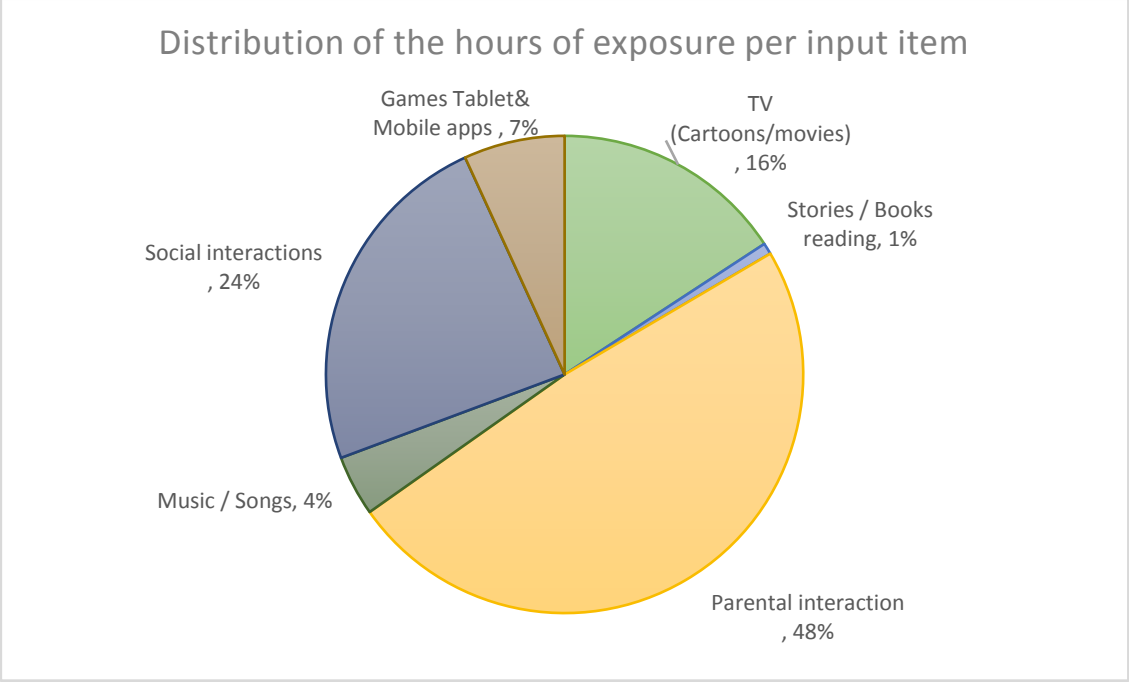

*Figure 4.2*Distribution of the child's hours of exposure per input item

In Fig 4.2, these categories are represented graphically in percentage of participation of the total hours of exposure combining Spanish and English. It is no surprise that the

greatest amount of exposure came from the interaction with parents and then from social interactions, both adding to 72% of the total hours. The remaining categories are indirect input items which nevertheless are also important to consider and to analyze. One important finding of this graph is how the technological devices such as the mobile phone and IPad represent a higher percentage compared to books/stories and music, especially considering the age of the participant (29 to 39 months old). These and other relevant findings are discussed in a separate analysis of each item presented ahead.

TV – Cartoons and movies

TV (videos) is the strongest indirect input item with a 16% of the total of hours the child was exposed to the languages during the period of the study. As can be seen in Fig 4.3, at the beginning of the observation period, the exposure was more balanced. The blue and green horizontal trend lines show how the gap between both languages input has grown. The exposure to movies and cartoons in English has increased progressively.

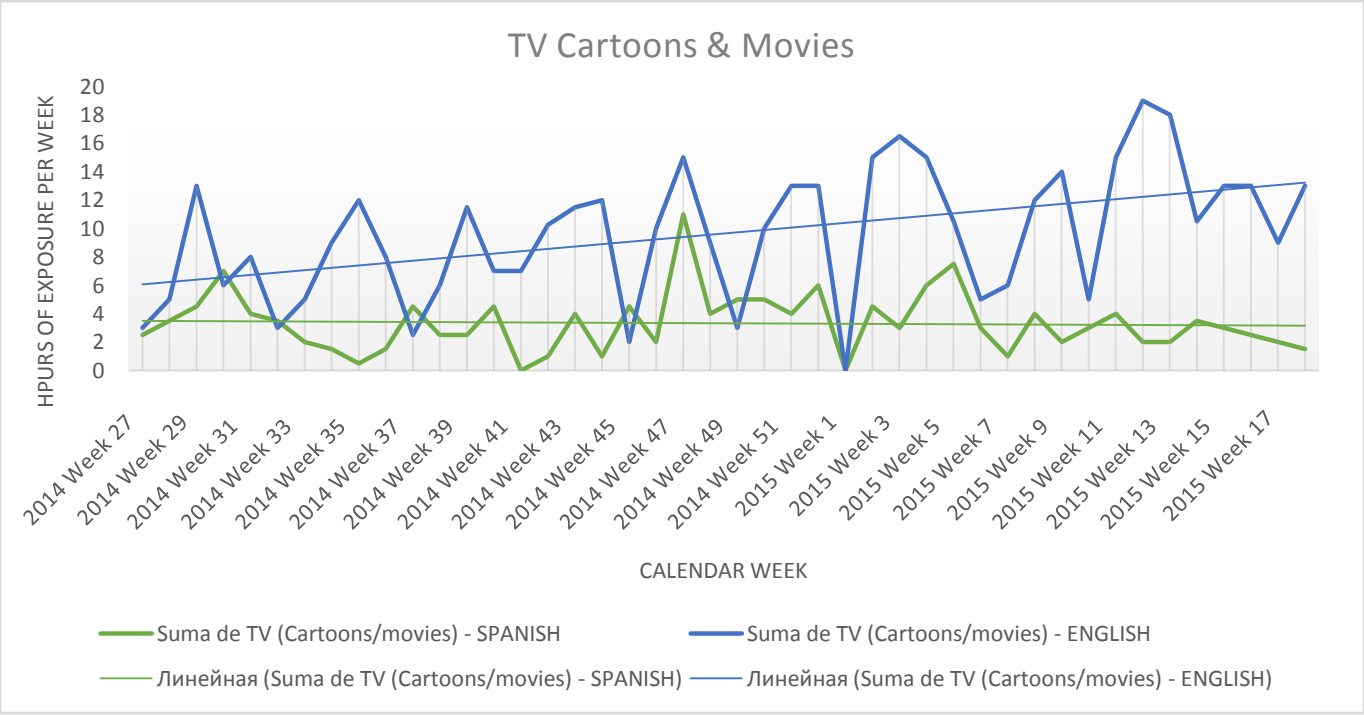

Figure 4.3. The child's exposure to both languages using TV (cartoons and movies)

At the beginning of the observation period, the toddler was 29 months old which meant an almost complete dependency on the parent or caregiver to set up the Video/TV/DVD or Internet streaming provider (Netflix) in order for the child to watch a movie or video. The mother / researcher chose to show the same movie/cartoon to the child in English and in Spanish when available. However, as the toddler learned to set up the movie/show on her own, it was the child who decided what to watch. For example, the Internet streaming provider (Netflix) is arranged to display all available shows in English; therefore when the child chooses a TV show or movie, this will automatically play in English.

Stories & Books reading

This category holds the lowest participation rate in the grand total of exposure with only 1%. These stories are mainly bedtime stories for the child. The Spanish bedtime stories are provided by the father and the English ones by the mother. These do not last more than 20 minutes. This category also includes stories which are told by the grandmother concerning her own childhood as well as cautionary tales. The three highest peaks seen in Fig 4.4 stand for weeks where the father was absent or not available at bedtime and therefore there was an increase in English bedtime stories.

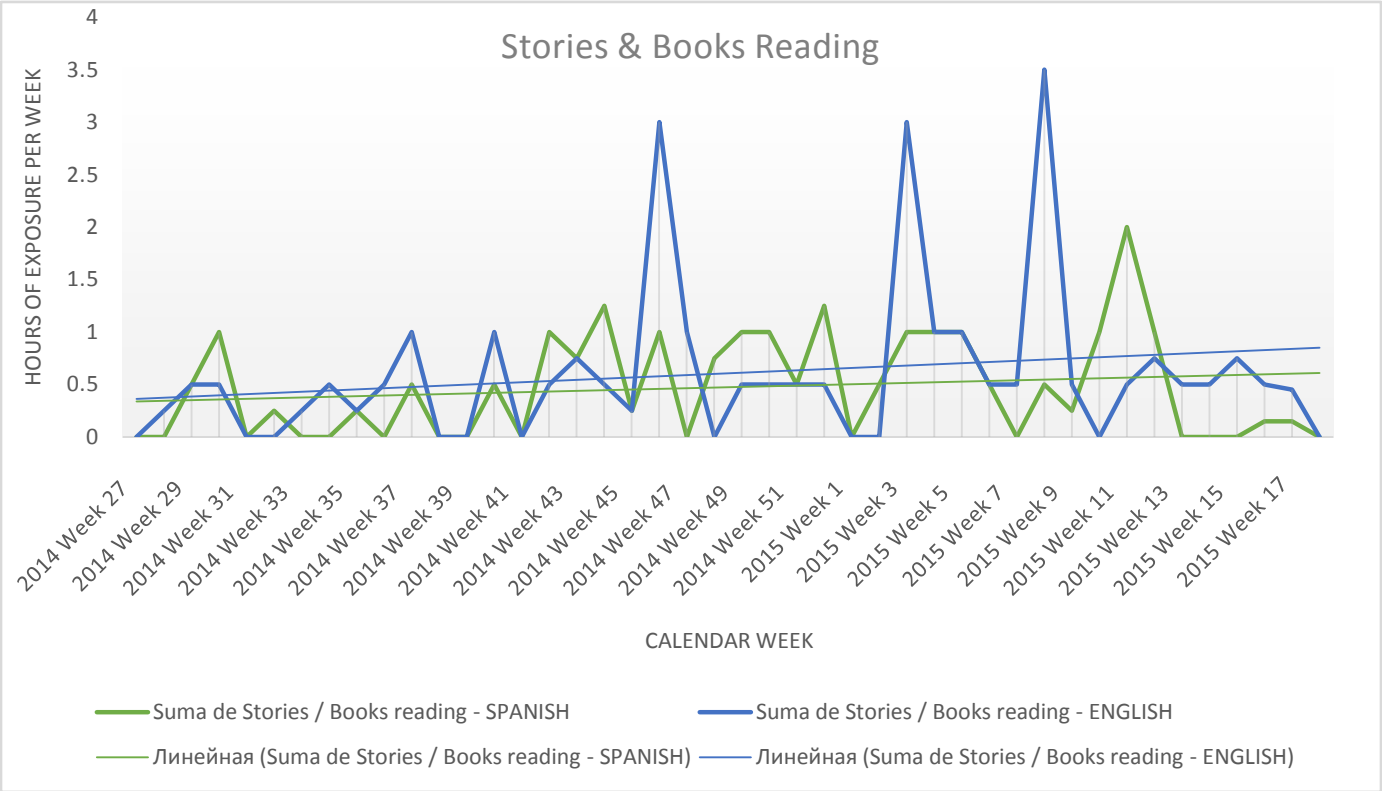

Figure 4.4. The child's exposure to both languages using stories and books

Parental Interaction

This category is by far the most influential input item for the bilingual language acquisition of the child. As seen in Fig 4.2, Parental Interaction represents 48% of the total of hours the child was exposed during the observation period. In Fig 4.5, we can see the development of the interactions with the parents within these 44 weeks. The horizontal trend lines show a minimal but progressive decrease in the Spanish Parental Interaction with the child. The reasoning behind this lies mainly in the increase of other input categories such as TV and

apps/games on mobile technology. The analysis on the use of this mobile technology can be found in the analysis of the mobile/IPad apps input.

The Spanish Parental interaction is mainly provided by the father of the participant. From Monday to Friday, the time available for such interaction is restricted due to the work schedule of the father. The average of time per day of Spanish parental interaction is two hours (See Appendix C). This time is spent in conversations and bedtime stories. Over the weekends is when the toddler receives the most interaction. The lowest points that can be seen in Fig 4.5 represent the weeks where the father was on travel work assignments. Except for those points, the line is quite regular.

The English Parental interaction as described earlier is provided by the mother as main care provider. As it will be seen in the social interaction analysis, there is no social interaction in English. The social circle of the child, close relatives and friends, of are only Spanish speakers. Therefore, the toddler receives only English interaction from the mother. This line is more irregular compared to the Spanish parental interaction. The irregularity is based on the duties of the mother outside the home. However, the trend line is very flat which proves consistency in the English Parental Interaction.

In here, it is important to point out how the interaction between the toddler and the mother has developed. Due to the nature of the mother's bilingualism (sequential in adolescence), it is not rare to find examples of language mixing in her addressing to the child. As described in Chapter 2 (See point 2.2.5 Mixed languages), language mixing is a common interaction between bilingual parents and their children. Mixing for the mother is triggered by specific situations. The mother would address the child in Spanish in specific situations such as danger (¡Cuidado te vas a quemar! – *Watch it! You will get burned*!);

scolding (¡No se tira la comida! - *Don't throw the food!);* soothing (ya pasó – *it is over now);* and social situations outside the family home (visits to the doctor, family gatherings, parties, etc.) as it is described in the section of social interactions. Please see below Figure 4.5 displaying the results of parental interaction.

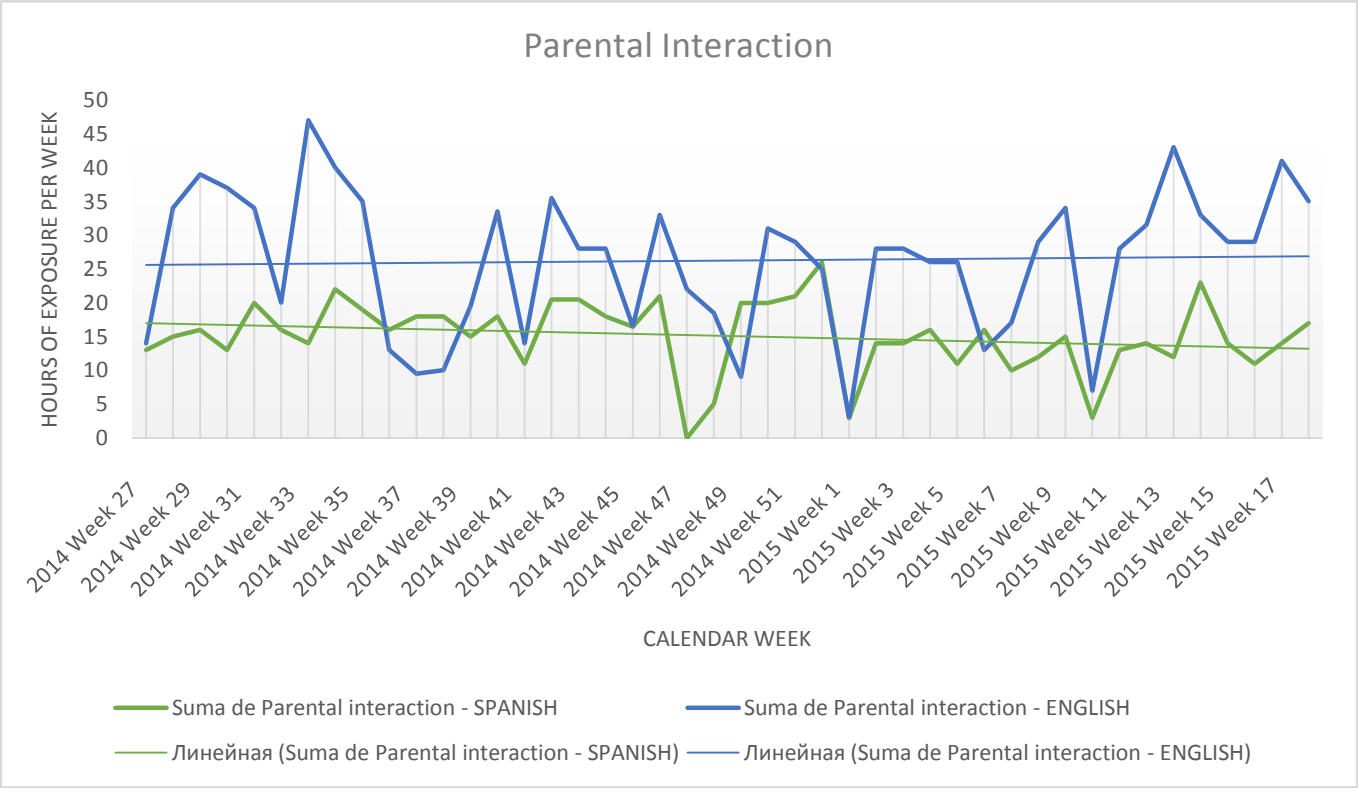

Figure 4.5. The child's exposure to both languages by parental interaction

Music & Songs

This category represents 4% of the total of input as seen in Fig. 4.2. The music and songs are provided either by interacting with the child with nursery rhymes or by having music playing in the background. In Fig 4.6, we can find the graphic results of this category. The

results of exposure to Spanish songs and music relied mainly on attending social gatherings, videos or movies seen in Spanish and music from the local radio. As it can be seen in the graph, the trend line of the exposure to music in Spanish barely surpasses one hour a week. The highest points in Spanish music exposure were influenced by celebrations, festivities with relatives or other situations which are not part of the day to day.

On the other hand, there was higher amount of exposure to English music. The trend line presented on the graph displays 2.5 hours a week of exposure to English Music and Songs. The Internet site of video sharing "YouTube" was used in order to gain access to the most popular nursery rhymes in English. The mother would use these songs to play with the child. Mother and child danced to the songs or followed the actions described by the song. For example in the song "head, shoulders, knees and toes" and "if you are happy…". The constant repetition of these songs have been an important asset in phonetic awareness. For more reference to the bilingual language acquisition of the child using songs, please refer to Appendix D with four transcripts of recordings of the child dating September, December February and May (Months 3,6,8 and 10 of the observation period). Now, find below Figure 4.6 with the results of amount of exposure using music and songs.

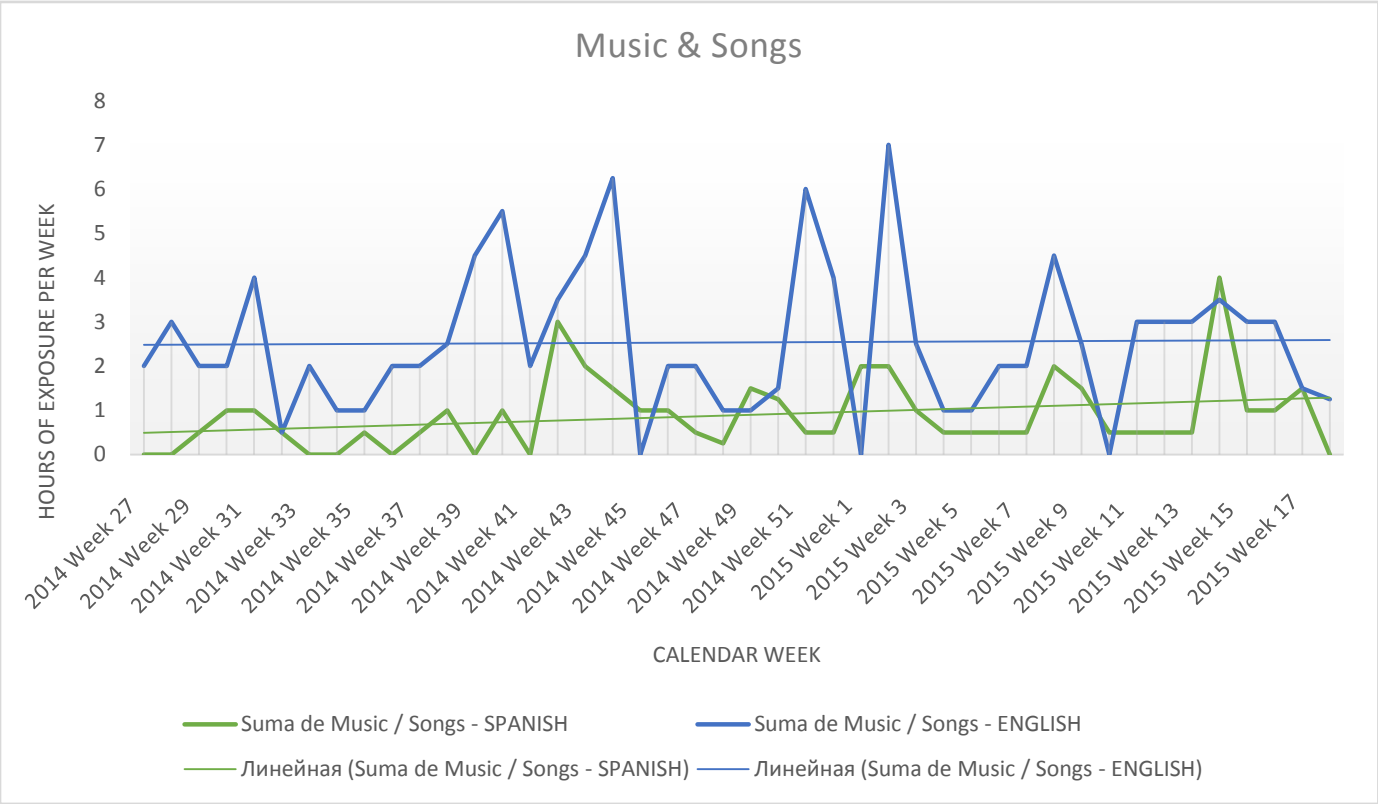

*Figure 4.6.*The child's exposure to both languages using songs and music

Social Interactions Outside the Family Home

As described by Pearson, Fernandez, Lewedeg and Oller (1997) watching people speak is not enough to cause a person to learn to speak or even sign. Instead, the learner needs to interact with speakers using the language (Ervin-Tripp, 1971; Griffith, 1985; Sachs & Johnson, 1976). The child has only been exposed to social situations in Spanish. There has been no interaction in English outside the parental interaction. As described in the second chapter (see point 2.3.1 Bilingual Language Acquisition in a monolingual society or community), social environment plays a key role in the dominance of any language. The fact that the child lives in a monolingual community represents very few opportunities for the child to interact with English speakers. The degree of detriment due the lack of such interactions is to be further explored.

In this category I also enclosed the interaction with the grandmother who babysits the child when mother and father are absent. This interaction is constant and valuable for the child's learning. The highest point in the graph seen in Fig. 4.7 stands out. This point is very high because the participant, the mother and the baby brother spent week 47 in the house of the grandmother when the father was absent in a travel assignment from work. As it can be compared in Fig. 4.7, the Spanish parental interaction was zero. The rest of the social interactions seen in Fig 4.7 represent social gatherings with relatives, holidays, festivities, birthday parties and other social situations.

In respect to social situations, the mother addresses the child in English when they are outside the family home except where there is a monolingual Spanish speaker present. This situation would make the mother switch immediately to Spanish. Both the psycholinguistic and the sociolinguistics reasons that prevent the mother from speaking to the child in English, such as respect to the third party or fear of the community's perceptions, are worthy of being explored in another study. Please find below Figure 4.7 with the results of social interactions outside the family home.

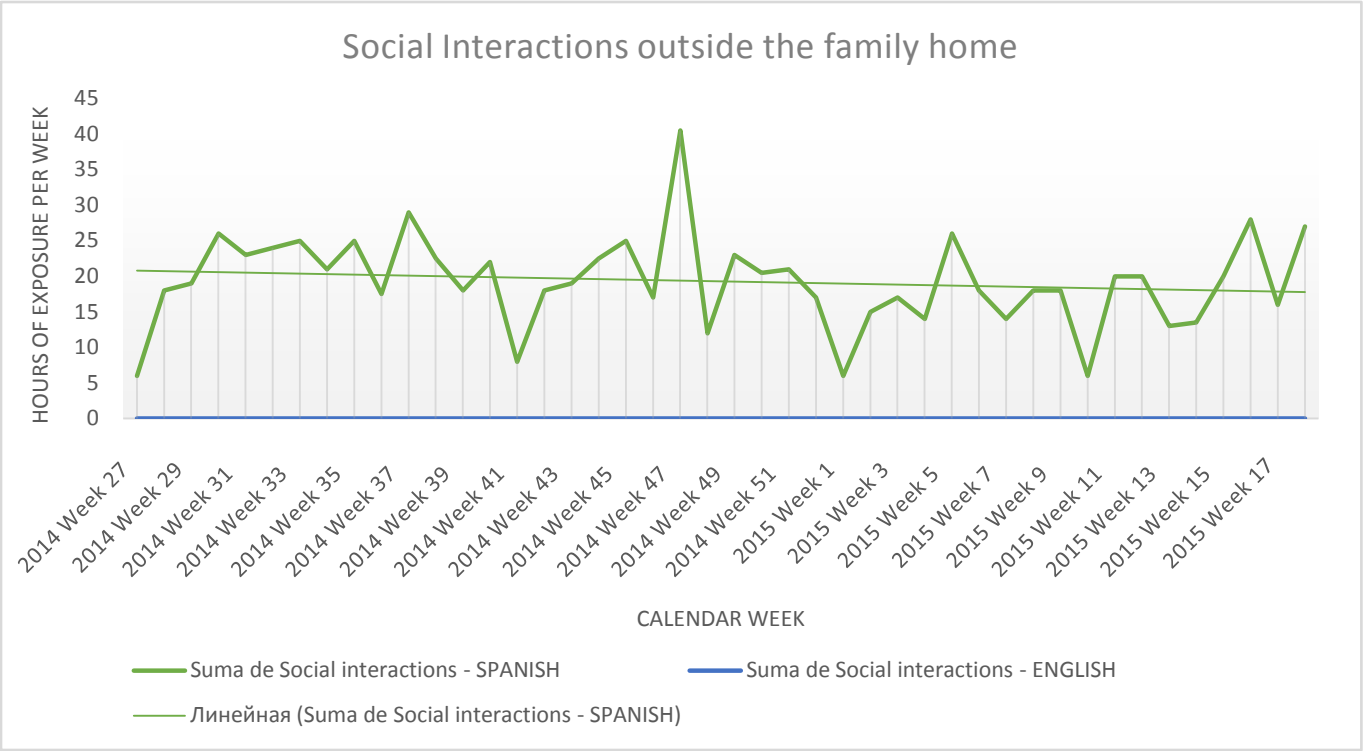

Figure 4.7. The child's exposure to both languages by social interactions outside the family home

Games & Apps in Tablet and Mobile phone

In Fig 4.8, we can see the time spent by the child per week in apps/games playing using an electronic device such as the smartphone or the IPad. The great increase in the English exposure in this category was caused by the purchase of an IPad to be used in the family home in November 2014 (week 48). At the beginning of the observation period the participant would only use a mobile phone (which belonged to the mother) to use apps. These apps were downloaded from the Play Store (official app store for Android phones) and consist mainly of vocabulary activities (*My First Words and Toddler Words*), reading and phonetic awareness (*Fisher Price's Story Book*), learning games (*Toddler Animals*) and learning puzzles (*Toddler Preschool Activities*). By the end of the observation period, the

child would use mainly the IPad apps such as stories reading (*Disney's Story Time*) and vocabulary activities (*Plume's School Animals*).

In this category I am also enclosing the use of the YouTube app to watch videos. This is the main source of the Spanish exposure in this item (see green line in the graph of Fig. 4.8) since the child would watch videos and shows in both languages. The exposure to Spanish in this category increased very little compare to the exponential growth in English exposure. A significant finding in this section is that the child has learned to use the mobile phone and IPad competently. Therefore, she decides which videos to watch and most importantly for this study, the language of the video she would watch. She is then deliberately choosing to watch videos in English over videos in Spanish. Please find below Figure 4.8 with the results of exposure through Tablet & Mobile.

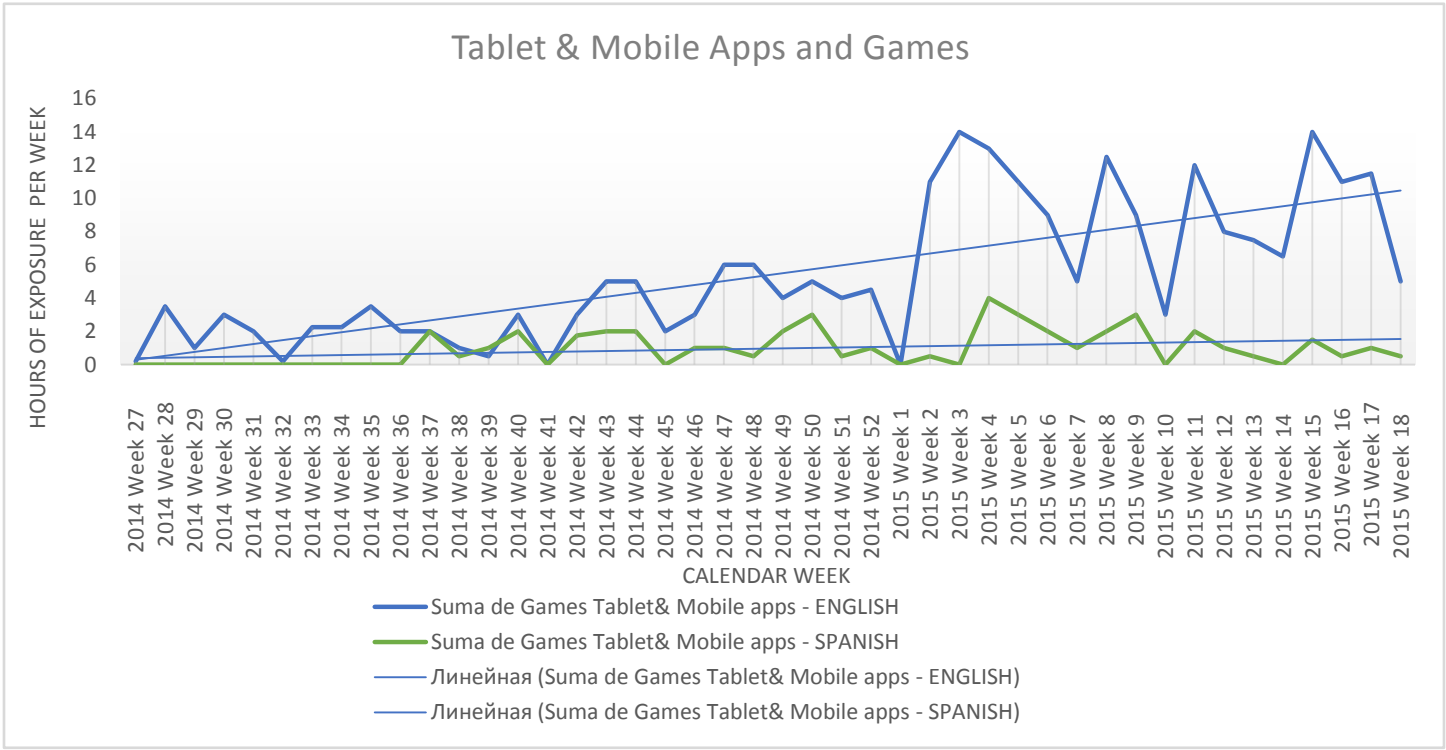

Figure 4.8. The child's exposure to both languages using games and apps on the tablet or mobile phone

4.2 Research Question 2 –Number of Commands acquired in Spanish

RQ2. How many commands would the toddler acquire in the majority language (Spanish)?

Table 4.2 summarizes the number of commands acquired per month in Spanish. These results were obtained from the field notes and spreadsheet to record these commands. The total commands acquired in Spanish was 177.It is important to notice that in this research question, Spanish is considered the majority language based on the fact that the society where the child lives in mainly monolingual Spanish.

4.2.1 Commands acquired during observations period

The development of commands acquisition had an incremental progress both in Spanish and in English. The rate of acquisition as well as the amount of commands which were understood and executed by the child are very similar in both languages (See graph of results in Fig 4.10). There is no significant difference in both. This is due in great part to the use of code switching by the parents. The parents, yet mainly the mother, would use language mixing to ensure comprehension of a new command. Therefore the command sometimes would be taught by the mother or father in both languages in order for a better understanding and acquisition from the child. The average of commands learned in Spanish per month was 17.7, slightly less than the English average (18). This is to be further developed in the following section.

Table 4.2

Commands acquired in Spanish per month

Month	Number of commands in Spanish
July	17
August	18
September	17
October	17
November	17
December	18
January	17
February	16
March	18
April	22
Total	177

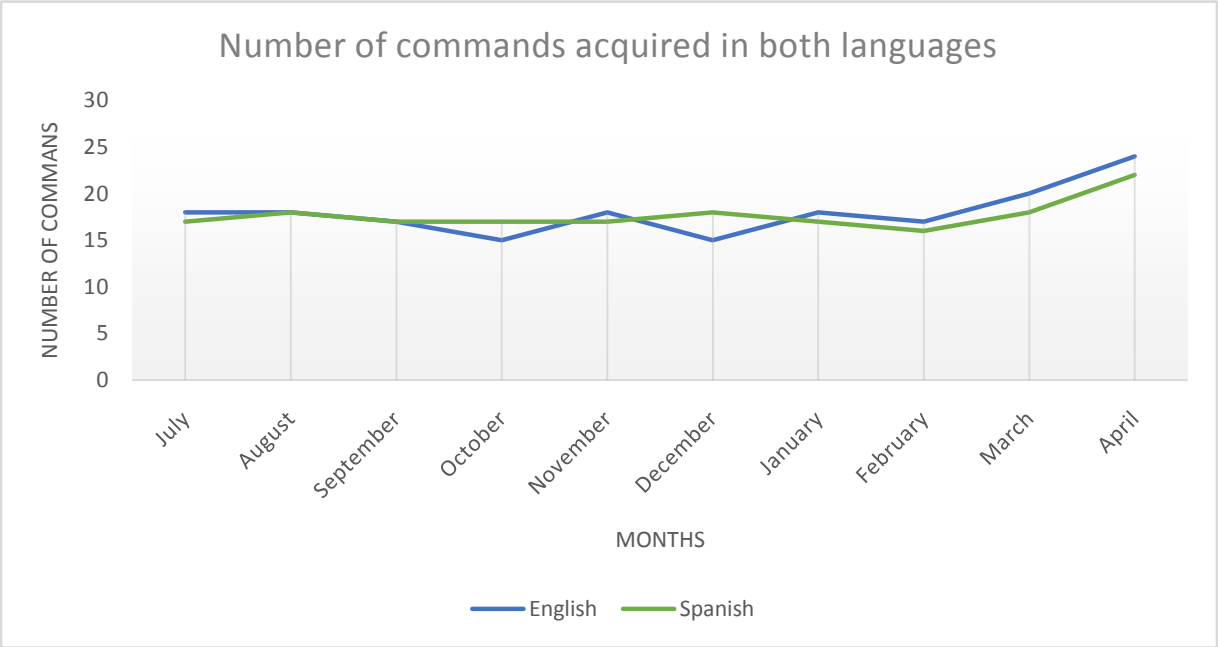

*Figure 4.9.*Comparison of the number of commands acquired by the toddler per month in both languages

Please refer to Appendix G for a full list of commands in Spanish. Examples on the increase of complexity in the commands executed by the child can be obtained by

comparing the commands of the first month of the study (July) to the commands of the last month (April). Although the child was already mastering some of the commands before of the period of the study, I am only taking into consideration the commands that the child was able to execute successfully without my intervention during the period of my study. By intervention I refer to the use gestures to encourage understanding, for example, my child was able to understand what I meant by saying "ven" (*come*) when I moved my hand or head indicating movement, but I considered it as an executed command when the child was able to do the action by only hearing my voice without any other non-verbal communication. However, it is important to highlight that the use of gestures was important when introducing a new command, especially in English. This is described in the sections of commands acquired in English.

As previously described, complexity in the commands performed by the child increased quickly in agreement with the cognitive development of the child. The first commands mainly involved pointing at body parts (dime ¿dónde está tu cabeza? – *tell me, where is your head?)*while the last commands implied more physical actions (baja la escalera pegadita a la pared! – *come down the stairs next to the wall!).*

4.3 Research Question 3 – Number of Commands acquired in English

RQ3. How many commands would the toddler acquire in the minority language (English)?

The total commands acquired in English was 180. Table 4.3 summarizes the number of commands acquired per month in English. It is important to bring under consideration that English is considered to be the minority language since the social environment where the child lives in Puebla is monolingual Spanish. Therefore although her main contact is with

the mother who addresses the child in English, this research question is based on the main language used in the society where the child lives.

4.3.1 Commands acquired during observations period

The rate, the number of commands and the techniques used were very similar if not identical in both languages. As it was described above, the use of a new command would sometimes imply clarification or repeating in both languages. The average number of commands learned in English per month was 18 which is higher than the average of Spanish by 0.3. This can be explained as a result of the nature of the relationship mother/child and the developmental age/stage of the toddler. The mother would use commands to make the child obey instructions and orders from the authority figure in the household which is the parents. As seen in Chapter 2 (refer to point 2.2.2 - The initial use of commands in language acquisition)a major milestone for the toddler is to understand and execute two word commands at age 2. This ability increases vastly as the toddler gains a broader vocabulary by age 3. As it can be seen in Appendix G and H (list of commands acquired), the complexity of commands increases also enormously given the short period of time. The last commands acquired in Month 10 (April) do require more linguistic abilities than the first command in Month 1 (July).

Even when the child was already executing commands in English before the observations period, only the commands that were executed successfully during my study were taken into account. As can be seen in Appendix H, the commands in English were increasing in complexity as the child was growing up. An important observation was that at the beginning of my study (age 29 to 35 months) when the commands were given to her in English, if she would not want to do them, she would answer in Spanish (¡no quiero! – *I do*

not want to!). However, as she grew, she would answer back in the language the command was given to her, even when she was reluctant to comply with the command (around age 35-36 months).

Another important finding in this matter was the actual use of gestures in bilingual language acquisition, specifically in this study, to first introduce the commands to the child, especially in English. A deeper study in this area is worth being explored. When the child would not understand the command in any language, the mother would repeat the command while using gestures to show the toddler the action required. These gestures proved to be very valuable for representing meaning in order to generate understanding. As previously described however, for the purposes of my study I considered the command as executed successfully when without any gestures, the child would perform the command. This applied mainly in the first months of the observation period as the comprehension has increased tremendously in the last months of the observation period. Below you will find Table 4.3 with the number of commands acquired in English per month. For the full list of commands acquired in English, please refer to Appendix H.

Table 4.3

Commands acquired in English per month

Month	Number of commands in English
July	18
August	18
September	17
October	15
November	18
December	15
January	18
February	17
March	20

April	24
Total	180

4.4Research Question 4 – Relationship between commands acquired and exposure

RQ4. Is there a relationship between the amount of exposure received in each language and the commands acquired by the toddler?

This is the main research question of the study, which unveils the relationship between exposure and commands acquisition. In order to answer this research question it is important to analyze the correlation of the two variables: language exposure and number of commands. In the following section, the analysis of the correlation graphs of Fig. 4.10 and 4.11 is described.

4.4.1 Correlation found

As has been explained in Chapter 2, commands are a great indicator of bilingual comprehension. It has also been established in the review of the literature how language dominance is measured by input significantly predicting language skills. As can be seen in the graphs of Figures 4.10 and 4.11, the correlation found between those two variables is not lineal, that is, more input does not necessarily mean more comprehension, in this case, more commands executed.

I decided to add trend lines to both graphs in order to see a polynomic trend instead of the lineal trend as in the other graphs. This type of polynomic trend line is very useful when there are fluctuations of data. This was done with the aid of the Excel programme (Excel 2013) in order to provide a better visual understanding of the results. This trend line indicates that after a certain threshold of exposure to Spanish, input matters less for

Spanishcommands execution(language comprehension). As it can be seen in this graph, there is no linear relationship between both variables.

However the graph shown in Fig. 4.11 shows a different trend. In here we can see an incremental correlation between both variables, this is, the more English input is given the higher number of commands in Englishis acquired. Please refer to the following section for the final analysis.

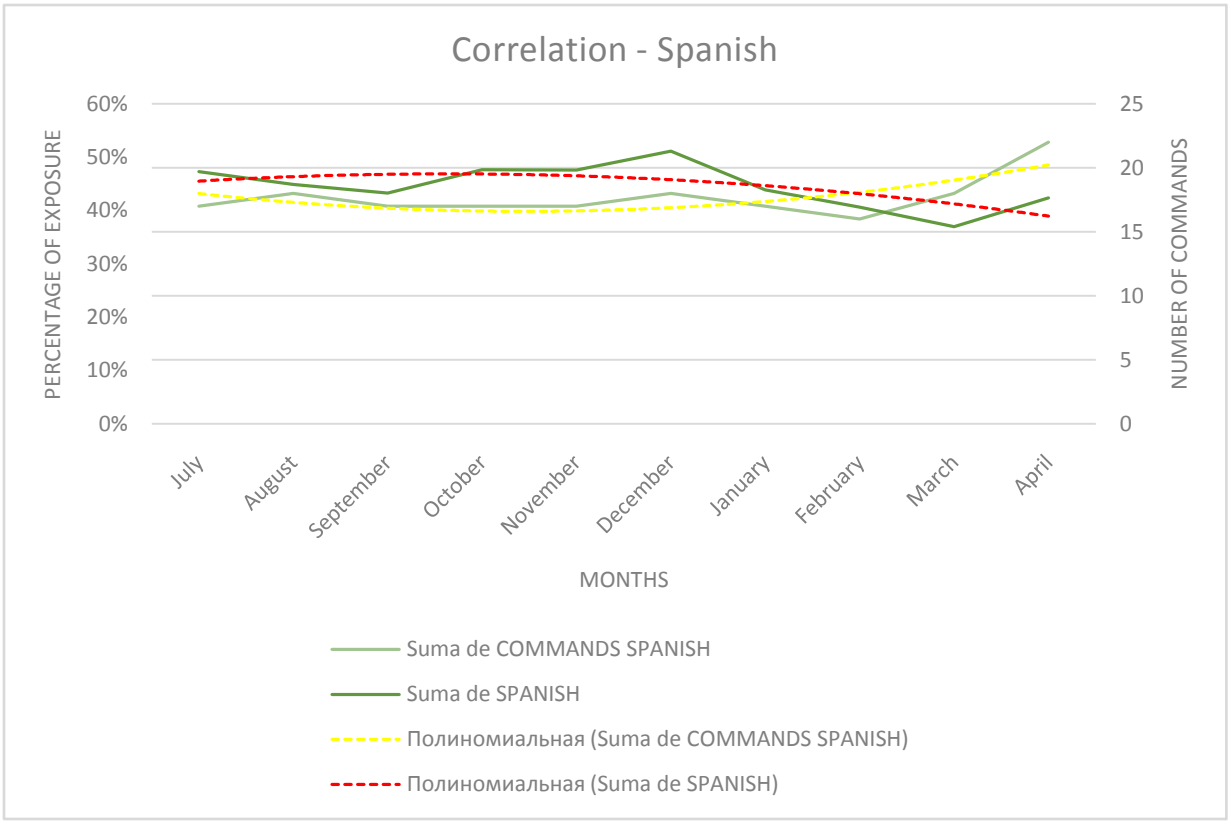

*Figure 4.10.*Comparison of commands acquired against exposure in Spanish

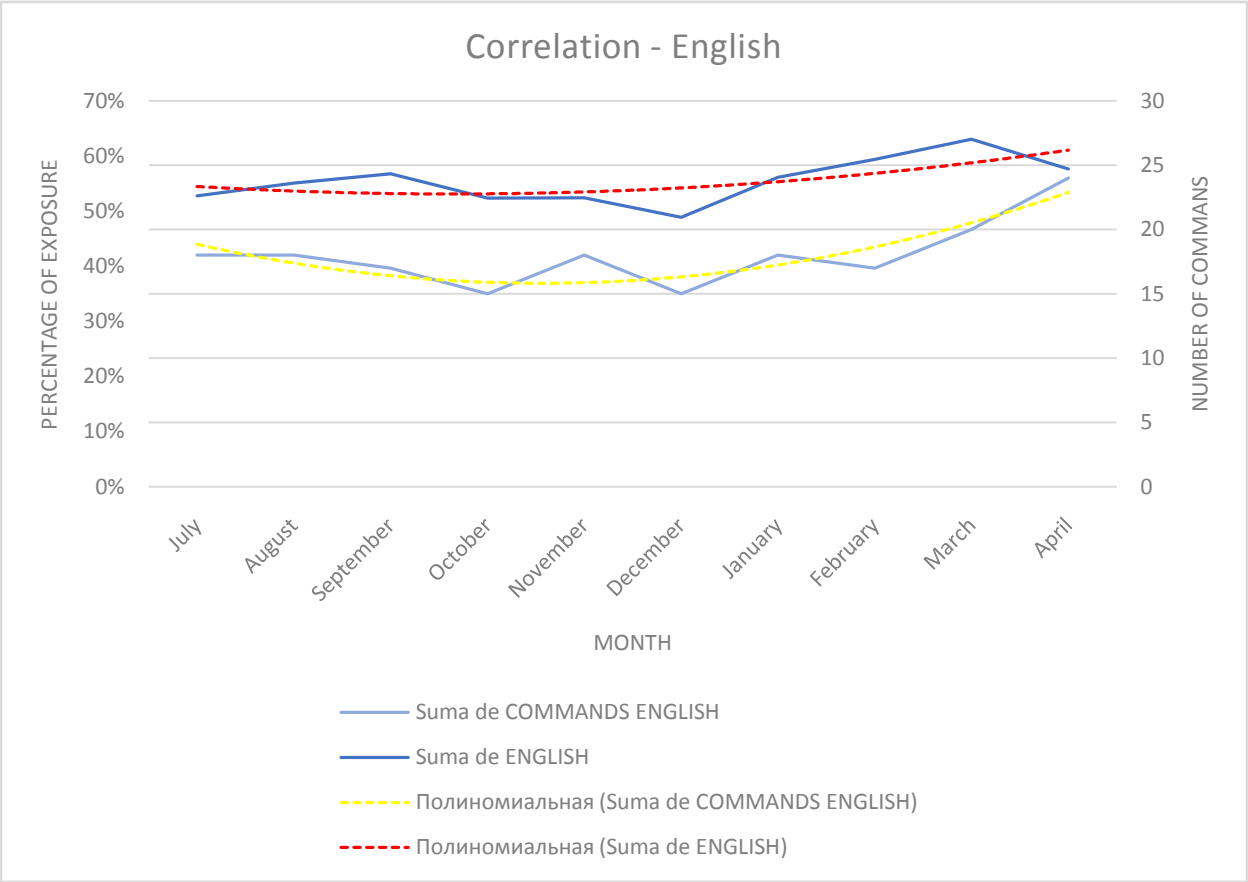

*Figure 4.11.*Comparison of commands acquired against exposure in English

4.4.2 Analysis

The results of this study not only describe patterns of receptive language skills via execution of commands but it also addresses opposing theories regarding the roles of input and output in the development of language comprehension. These results are evidence that language exposure is a significant predictor of acquisition;however, the statistical analysis may present certain limitations in relation to the measurement of hours of input that the child received Spanish and the subsequent correlation to comprehension, which yielded an unexpected result in the manner that comprehension development is predicted.

The results presented in the graphs above suggest thatas exposure to English in the home increases, children's language comprehension in English also increases. In other words, there is a positive correlation between English exposure and comprehension. However, in regards to the correlation between Spanish exposure and comprehension, the results were atypical as the graphics in Figure 4.10 clearly demonstrate. Even though exposure to Spanish decreased over time, the child's comprehension of commands in Spanish continued to increase, indicating a weaker correlation between the two variables. In simple terms, the raw numbers suggest that Spanish exposure was not an indicator of Spanish comprehension. However, such results are not actually supported by the wider body of research findings, and various plausible explanations to this unexpected results are available. First, the measurement of English language input was easier to manage and control because the Mother/Researcher was essentially the only source of English input apart from electronic media such as internet and television, which the Mother/Researcher also controlled and easily measured. On the other hand, because Spanish is the community language where the child was growing up, it was more difficult to control, manage and measure the child's actual exposure to Spanish language input. Spanish is ubiquitous within the child's sociocultural context. As such, it is feasible that the Spanish input measurements that were used in terms of the study's intervention did not present a completely accurate representation of the child's exposure to Spanish language input.

Another explanation, which is equally feasible, falls in line with the research findings of scholars such asCummings (2000),Lenneberg (1967), Pearson, Fernández, Lewedag, & Oller (1997) and Penfield (1967)who postulate that 'there is a threshold wherethe increase of exposure would be neither beneficial or harmful' in terms of language

acquisition. These researchers propose that there is an appropriate and sufficient amount of language input that is necessary for acquisition to occur, and any additional language input which is provided above the 'sufficient amount' is superfluous. In other words, 'extra input' is neither beneficial nor harmful, yet there is a 'point of no return' in the acquisition process, afterwards of which, the amount of input would not be crucial for language acquisition to be successful.

This theory is aligned with results from Ribbot (2012). In her investigations, she has concluded that he amount of language exposure was not an indicator of language comprehension. She also found that language comprehension is achieved quicker than language production in bilingual children.

In order to understand the difference between both graphs, it is important to acknowledge the only main difference between the exposure in English and the exposure in Spanish. The only factor that differs greatly between the exposures to both languages is the Social Interaction outside the family home. That is, there is a social interaction effect between language dominance in the community and the language comprehension of the child.

4.5 Conclusion

This chapter presented the results of this study and their interpretation. The core of this chapter was to answer the research questions and to provide a meaningful analysis of the results. The conclusion of the previous analysis will be further developed in Chapter 5. Also in Chapter 5I will discuss the significance of the results obtained from this study. In a separate section I will discuss also the limitations of this study as well as suggestions or

possibilities for further research based on the present analysis. But most importantly in Chapter 5 I will evaluate the accomplishment of the research aims.

CHAPTER 5: CONCLUSIONS

5.0 Introduction

In this chapter, I present my final discussion concerning the results obtained in this study. This discussion is guided by an examination of the fulfilment of the research aims set in Chapter I. There is also a short discussion on the significance of this study and the intended contributions to the field of bilingual first language acquisition in toddlers. The present chapter also provides a more in-depth description of the additional findings which are not related to the principle research aims or the research questions. These unexpected findings form an important part of the contributions of this study; therefore, it is necessary to share them in a more extensive manner.

The chapter also describes the limitations that are particular to this type of study and the design of the research. Recommendations for further research are also suggested. I conclude the chapter with recommendations based on the results of this thesis and some final comments describing the experience of conducting this study.

5.1 Overview of the results

As seen in the previous chapter, the results of this study describe the relationship between input and receptive language in a child's bilingual language learning experience. In general terms, the findings derived from this study outlined different patterns of interaction between the participant and the different sources from which she received input in two languages. After the analysis of these patterns, field notes were used in order to create two lists of commands, one in Spanish and one in English. The final analysis was conducted in order to obtain a relation between the commands that were successfully acquired in the 10-month period and the amount of exposure per language the child received. The results from

this final analysis were conclusive for the purposes of the thesis and reveal an important relation between exposure and comprehension.

In Spanish, the results indicate that after a certain threshold of exposure to Spanish at home, additional input matters less for the acquisition of commands as a receptive language skill. In English the relation is lineal. The more exposure given to the child in English, the more commands were executed, which is an indicator of language comprehension.

5.2 Research Aims

There were two main aims to this study. The first one was to explore simultaneous language acquisition in a toddler raised in a bilingual home within a monolingual community. The second aim related to finding the correlation between the number of commands comprehended by a toddler in two languages and the amount of exposure provided to the child over a specific period of time.

5.2.1 Accomplishments

The research aims were completely fulfilled and very revealing. Firstly, the bilingual language acquisition of the toddler was successfully documented and milestones were recorded in a diary. The acquisition of commands and the input given in both languages were registered on Excel spreadsheets. During a 10 month period, the language development of the child was observed. During this period, there were only 20 days where the observations were not recorded or the child was not available due to sickness. This process implied a large amount of data and most importantly this data was highly complex.

As it will be explained further ahead, there were many findings that were not related to the research questions yet enlighten possibilities for further research.

As far as the second research aim, this was also achieved through the analysis of the data obtained during the observation period. This analysis was conducted by representing graphically the data obtained using MS Excel (2013) tools. By adding a trend line to the data, I was able to link the results of exposure and commands. This helped to elaborate a hypothesis on the correlation of both variables.

5.3 Significance of the findings

Past studies on child bilingual language acquisition mainly focused on the association between exposure and language production expressed via vocabulary acquisition. In comparison, the current study presents an analysis based on language comprehension by analysing the commands acquired by the child when exposed to both languages. The findings of this thesis outline some insights on how close the association between exposure and comprehension is.

5.3.1 Discussion on the study contributions

The contributions of this study are both pedagogical and theoretical. The pedagogical contributions are associated with the observations of the skills developed by the toddler. For example, receptive language skills are related to the development of pre-reading skills in elementary school. We can find pedagogical implications in education and early schooling (e.g. Kindergarten and Pre-school) as the offer of bilingual schools in Mexico and other non-English speaking countries increases due to globalization effects. The pedagogical contributions can be used for parents aiming to raise bilingual children,

educators and researchers in order to implement strategies for preparing children for school entry.The results presented in Chapter 4 and in point 5.1 are significant to parents aiming to raise bilingual children in Mexico and other monolingual societies by using the same strategy I used (Non Native Parents – One Parent/One Language) or by adapting it to their needs.

In terms of theoretical contributions, this study provides an insight into the magnitude of the relation between language exposure and language comprehension. This correlation is greatly relevant for students and scholars of linguistics and sociolinguistics. The results of this study provide a positive link between language exposure and language comprehension. However, by analysing both languages separately in both variables, the main finding was the role of socialization outside the family home in terms of language development. These results can be seen as a contribution to the study of socialization in language development.

5.4 Additional findings not related to the research aims

This section describes relevant findings which were not part of the research objectives but are too significant to be left out of this thesis. As mentioned in Chapter 3, one of the advantages of direct observation of phenomenon is that it provides an important amount of first-hand information. As a researcher, I was fortunate enough to witness the incredible process of bilingual language acquisition as it occurred. The fact that the researcher was also the main care/language provider to the child generated many situations worthy of separate studies on bilingual language acquisition. The following findings are some of the ones I considered to be the most relevant to the study of bilingualism.

5.4.1 Enunciation as distinctiveness of speech

When the observation period began, the toddler was 29 months old. The stage of her speech production at that moment was two/three-word sentences largely in Spanish but also some two-word sentences in English. This production included nouns and verbs that were part of the everyday actions and concepts. The clarity, pronunciation and tone of such speech was perceived differently in the two languages by the mother/researcher.

As described in Chapter 3, the nature of the mother's bilingualism might be a constraint in understanding the babblings and first words of the child in the L2 (English) of the mother. The most notable example of this happened when the toddler was 35 months old. The participant was at the family home during a social gathering with family/friends (all Spanish speakers) when she asked the mother for *guata* - ¡Quiero guata! (water, phonetically /'wɔ:tə/). The pronunciation was within a normal range, however, the mother could not understand or she was not expecting to hear an English word in a Spanish speaking atmosphere. This led the toddler to repeat it 3 times until she had to signal with her finger the water dispenser. The fact that the mother is a Spanish native speaker triggered similar situations during the observation period in different degrees of message understanding. This can be interpreted as a difficulty in understanding babbling/first utterances differently in the two languages when the parents/care providers are not native speakers of one of the languages.

The speech produced by the child was perceived by the mother as within normal development. However, the speech of the child developed at a different pace for both languages during the observation period. By age 39 months, the child participated in a

development evaluation as a pre-school entry requirement for kindergarten. This evaluation involved the child spending three hours in a kindergarten class and she being observed by the school psychologist. The evaluation results (See Appendix I) provided by the school psychologist (monolingual Spanish) showed that the child was within normal development for her age. The only point which was highlighted to be developed was the child's diction (in Spanish). In contrast, the comments made by the kindergarten teacher were that the child was able to speak and mix words in English in her Spanish sentences. In this respect, the teacher (English/Spanish bilingual) mentioned that she was able to understand her utterances based on the English nouns the toddler chose to use. This can be understood as the clarity in the child's speech being based on the language she used to express nouns and verbs and the degree of her code-switching. The observation of this phenomenon in the child is explained in the following point.

5.4.4 The child's decision to produce words in either language

The first words of the child occurred at age 11 months. These were words in Spanish. The first word in English happened at age 13 months. During the observation period, there were many situations where the child made a conscious decision over which language to use for that specific moment or place. This contextual sensitivity to choose a language can be explained in terms of interaction with the interlocutor. In interaction with the grandmother (monolingual Spanish) and the father (bilingual), the child would use only Spanish and only insert English words when she forgot or did not know the Spanish equivalent. However, in interaction with her mother, the child code-switched extensively and sometimes she would even use English over Spanish. The child's language mixing revealed that she had a good control of differentiating the languages according to the context.

5.4.4.1 Participant's code-mixing

As it was described above, language mixing in the child was observed with contextual factors, such as interlocutors and environments of speech production. In the literature review presented in the second chapter, code-switching was explained as a very common phenomenon for bilingual people and a regular occurrence for bilingual children during the acquisition process. In this study, the most common type of mixing in the child involved the insertion of single lexical entries – mostly English nouns into Spanish utterances.

In here, it is important to highlight that the child has been able to differentiate the two languages from a very early age. Having said that, it is also notable that the child was not conscious yet of the concepts of Spanish and English nor that she was able to speak two languages. Despite differentiating the languages as separate, she experienced communication breakdowns with children her same age when using English words in her interactions. It can be hypothesised that the child thought speaking two language systems was a natural occurrence for other children as well and that she would be understood as she is by her mother (See point 2.2.2.2 – d) Language Differentiation). In the social interactions with children her same age, such as playtime in the nearby park, the child had problems communicating her messages when she used English words; however she managed to use gestures and kinetics to be understood. This happened mainly with children her same age or close to her age. During the observation period, this also happened with adults outside the main care providers (mother, father, grandmother), but it was very rare.

5.4.3 Participant decision to receive input in either language

The child's development has been tremendously great within the 10-month- observations period not only in language but also physically and cognitively. Within this period, the

toddler learned to use TV, DVD and Internet connected devices such as Smart TV, Mobiles phones and IPad. These new abilities were used by the child repeatedly in order to select for herself the video or show to watch. For example when watching videos on Internet using YouTube, the toddler would select manually from a list of videos suggested by the program. The child was consciously aware of the choice of watching videos in either language. This finding was noted in Chapter IV, as a vast increase in the input received through Mobile & IPad apps.

However, this is not the only input item where this occurred. In bedtime stories read or told to the child by the parents, the father was the one who read in Spanish to the child, and the English bedtime stories were read/told by the mother. During these bedtime stories, the child expressed to her father her wish to be read to in English *(¡este no! – quiero el de mamá, leelo como mamá / this one no! – I want the book of mommy – read it like mommy*) or also would choose which book or story she wants to be read to (¡*quiero el de daisylocks! / I want one of daisylocks!*). This same phenomenon occurred when the toddler chose the music she wanted to dance to or the songs and nursery rhymes that she wanted to sing.

These findings are very intriguing and powerful. It can be hypothesised that the mother as the main care provider had some influence on the child as the toddler wished to please the mother and therefore chose English as it is the language her mother spoke to her. However, a more in-depth analysis can be done in order to find an answer to this occurrence.

5.4.4Language Production compared to Language Comprehension

Despite the fact that by the end of the observation period the toddler was producing both English and Spanish, her bilingualism can be better defined as Receptive Bilingualism (see

point 2.2.1 Different Types of Bilingualism in Chapter 2). This is due to the comparison of the amount of utterances in both languages. There were without a doubt more utterances in Spanish than in English. In terms of language comprehension, she understood meaning of both languages to their fullest complexity.In language comprehension, she understood commands of two steps in both languages by age of 20 months and three steps commands by age 32 months.

Here it is important to notice that the participant preferred to speak mainly Spanish in everyday interaction, even though she understood both languages very well. In this study, bilingual comprehension was more readily achieved than production. The two processes had very different timelines with respect to milestones achievement and rate of development. However, even when in terms of language production she might had had a delay compared to monolingual children, but in terms of comprehension there is no observable difference.

5.5 Limitations of the present study

The researcher encountered difficulties and challenges with this study that were somewhat restrictive at times. One of the limitations of this study concerned precisely the nature of this thesis: a single case study. The observations were conducted on one child and as it was expected no generalization can be drawn from these results. These points have been already discussed in Chapter 3.

Another limitation also already discussed, is the relationship of the participant (toddler) and the researcher (mother). In this sense, there will be always an issue of subjectivity in the analysis of this study. Though, the advantages of having first-hand observations is very important for the interpretation of the results of this study.

The time period involved in conducting this study was restricted to a single 10-month period. This is a limitation if we consider that most research on child bilingualism conduct longitudinal studies which required longer periods in order to closely observe the development of both languages.

A final limitation would be based on having a single researcher in this study. This study would benefit enormously with the addition of a secondary researcher or a professional language specialist that could assess the language development of the child. This professional could be a child psychologist, language specialist or a neurologist.

5.6 Possibilities for further research

There are several ways in which this study could be expanded in the future. First and foremost, a cross sectional study with children in the same or similar conditions to the participant could generate more data to compare and investigate. Similarly, it would be significant to follow the development of the child now in structured education in a Mexican bilingual Preschool. Another possibility for future research lies in the little brother of the participant who is currently 15 months. This further study would provide a comparison between siblings emphasising gender differences in language or speech development. The fact that the younger child receives input not only from the parents but also from her older sister creates a different scenario worthy to be explored. Finally, one last area worthy to be explored would be the perception the mother has on passing her bilingualism to her children. As it was described in Chapter 4, the mother was reluctant to speak to her child in English when there were monolingual Spanish speakers present, even when these were relatives or close friends.

5.7 Recommendations

The results of the present study intend to encourage parents, aiming to raise bilingual children, to reinforce exposure to both languages in social contexts. This highlights the importance of social and parental interaction for success in bilingual language acquisition. However, the results of this study also prove that parents are able to choose other language input items that would encourage a bilingual setting for the development of the child.

5.8 Final Comments

This chapter reviewed the original aims of the study that motivated the current research and its completion. It then continued to review contributions,additional findings, limitations, future research possibilities and recommendations.

Finally, I would like to add some concluding comments on the experience of conducting and reporting on the results of this study. From the beginning this thesis represented a great effort and a conscious work. The methodological approach employed in this research was a mixed-method combination of qualitative and quantitative methods. This alone represented a great amount of discipline and constancy.

Nevertheless this experience also represented a great opportunity to witness and record language acquisition and have first-hand data. This is very valuable, not only as a linguistics student but also as a parent that wishes to encourage languages in her children. This research study helped me to have a broader vision on bilingualism and the benefits that it conveys to the child. Most importantly it helped me to have a better understanding of my own child development and of our relationship.

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Appendix A. Recording Sheet for Observations

Field notes (observation)			
Date	**Place**	**Command acquired**	**Observations**

Appendix B. Spreadsheet to record exposure

Amount of exposure																		
Majority Language (Spanish)										Minority Language (English)								
		TV (Cartoons/movies)	Stories / Books reading	Parental interaction	Music / Songs	Social interactions	Games Tablet& Mobile apps	Total of hours	Percentage per week	TV (Cartoons/movies)	Stories / Books reading	Parental interaction	Music / Songs	Social interactions	Games Tablet& Mobile apps	Total of hours	Percentage per week
Month 1 (July)	Week 27/2014							0	0%							0	0%
	Week 28/2014							0	0%							0	0%
	Week 29/2014							0	0%							0	0%
	Week 30/2014							0	0%							0	0%
	Week 31/2014							0	0%							0	0%
Total Month 1		0%	0%	0%	0%	0%	0%	0	0%	0%	0%	0%	0%	0%	0%	0	0%
Month 2 (August)	Week 32/2014							0	0%							0	0%
	Week 33/2014							0	0%							0	0%
	Week 34/2014							0	0%							0	0%
	Week 35/2014							0	0%							0	0%
Total Month 2		0%	0%	0%	0%	0%	0%	0	0%	0%	0%	0%	0%	0%	0%	0	0%
Month 3 (September)	Week 36/2014							0	0%							0	0%
	Week 37/2014							0	0%							0	0%
	Week 38/2014							0	0%							0	0%
	Week 39/2014							0	0%							0	0%
Total Month 3		0%	0%	0%	0%	0%	0%	0	0%	0%	0%	0%	0%	0%	0%	0	0%
Month 4 (October)	Week 40/2014							0	0%							0	0%
	Week 41/2014							0	0%							0	0%
	Week 42/2014							0	0%							0	0%
	Week 43/2014							0	0%							0	0%
	Week 44/2014							0	0%							0	0%
Total Month 4		0%	0%	0%	0%	0%	0%	0	0%	0%	0%	0%	0%	0%	0%	0	0%
Month 5 November	Week 45/2014							0	0%							0	0%
	Week 46/2014							0	0%							0	0%
	Week 47/2014							0	0%							0	0%
	Week 48/2014							0	0%							0	0%
Total Month 5		0%	0%	0%	0%	0%	0%	0	0%	0%	0%	0%	0%	0%	0%	0	0%
Month 6 (December)	Week 48/2014							0	0%							0	0%
	Week 50/2014							0	0%							0	0%
	Week 51/2014							0	0%							0	0%
	Week 52/2014							0	0%							0	0%
Total Month 6		0%	0%	0%	0%	0%	0%	0	0%	0%	0%	0%	0%	0%	0%	0	0%
Month 7 (January)	Week 1 / 2015							0	0%							0	0%
	Week 2 / 2015							0	0%							0	0%
	Week 3 / 2015							0	0%							0	0%
	Week 4 / 2015							0	0%							0	0%
	Week 5 / 2015							0	0%							0	0%
Total Month 7		0%	0%	0%	0%	0%	0%	0	0%	0%	0%	0%	0%	0%	0%	0	0%
Month 8 (February)	Week 6 / 2015							0	0%							0	0%
	Week 7 / 2015							0	0%							0	0%
	Week 8 / 2015							0	0%							0	0%
	Week 9 / 2015							0	0%							0	0%
Total Month 8		0%	0%	0%	0%	0%	0%	0	0%	0%	0%	0%	0%	0%	0%	0	0%
Month 9 (March)	Week 10 / 2015							0	0%							0	0%
	Week 11 / 2015							0	0%							0	0%
	Week 12 / 2015							0	0%							0	0%
	Week 13 / 2015							0	0%							0	0%
Total Month 9		0%	0%	0%	0%	0%	0%	0	0%	0%	0%	0%	0%	0%	0%	0	0%
Month 10 (April)	Week 14 / 2015							0	0%							0	0%
	Week 15 / 2015							0	0%							0	0%
	Week 16 / 2015							0	0%							0	0%
	Week 17 / 2015							0	0%							0	0%
	Week 18 / 2015							0	0%							0	0%
Total Month 10		0%	0%	0%	0%	0%	0%	0	0%	0%	0%	0%	0%	0%	0%	0	0%
GRAND TOTAL		0%	0%	0%	0%	0%	0%	0	0%	0%	0%	0%	0%	0%	0%	0	0%

Appendix C. Spreadsheet to keep track of the total of commands acquired by the toddler

Recording of number of commands learned		
	No. Commands learned in Spanish	No. Commands learned in English
Month 1		
Month 2		
Month 3		
Month 4		
Month 5		
Month 6		
Month 7		
Month 8		
Month 9		
Month 10		
TOTAL	0	0

Appendix D. Results of the amount of exposure per month and input item

Amount of exposure																		
Majority Language (Spanish)										Minority Language (English)								
		TV (Cartoons/movies)	Stories / Books reading	Parental interaction	Music / Songs	Social interactions	Games Tablet& Mobile apps	Total of hours	Percentage per week	TV (Cartoons/movies)	Stories / Books reading	Parental interaction	Music / Songs	Social interactions	Games Tablet& Mobile apps	Total of hours	Percentage per week
Month 1 (July)	Week 27/2014	3	-	13	-	6	-	22	30%	3	0	14	2	0	0	19	27
	Week 28/2014	4	-	15	-	18	-	37	22%	5	0	34	3	0	4	46	27
	Week 29/2014	5	1	16	1	19	-	41	24%	13	1	39	2	0	1	56	33
	Week 30/2014	7	1	13	1	26	-	48	29%	6	1	37	2	0	3	49	29
	Week 31/2014	4	-	20	1	23	-	48	29%	8	0	34	4	0	2	48	29
Total Month 1		3%	0%	11%	0%	13%	0%	195	27%	4%	0%	19%	2%	0%	1%	217	30
Month 2 (August)	Week 32/2014	4	0	16	1	24	-	44	26%	3	-	20	1	-	0	54	32
	Week 33/2014	2	-	14	-	25	-	41	24%	5	0	47	2	-	2	57	34
	Week 34/2014	2	-	22	-	21	-	45	26%	9	1	40	1	-	2	53	31
	Week 35/2014	1	0	19	1	25	-	45	27%	12	0	35	1	-	4	52	31
Total Month 2		1%	0%	11%	0%	14%	0%	175	26%	3%	0%	17%	1%	0%	1%	215	32
Month 3 (September)	Week 36/2014	2	-	16	-	18	-	35	21%	8	1	13	2	-	2	63	38
	Week 37/2014	5	1	18	1	29	2	55	32%	3	1	10	2	-	2	44	26
	Week 38/2014	3	-	18	1	23	1	45	26%	6	-	10	3	-	1	54	32
	Week 39/2014	3	-	15	-	18	1	36	21%	12	-	20	5	-	1	63	37
Total Month 3		2%	0%	10%	0%	13%	1%	170	25%	4%	0%	8%	2%	0%	1%	223	33
Month 4 (October)	Week 40/2014	5	1	18	1	22	2	48	29%	7	1	34	6	-	3	50	30
	Week 41/2014	-	-	11	-	8	-	19	26%	7	-	14	2	-	-	23	32
	Week 42/2014	1	1	21	3	18	2	45	27%	10	1	36	4	-	3	53	31
	Week 43/2014	4	1	21	2	19	2	48	29%	12	1	28	5	-	5	50	30
	Week 44/2014	1	1	18	2	23	2	46	28%	12	1	28	6	-	5	52	31
Total Month 4		1%	0%	10%	1%	11%	1%	207	28%	6%	0%	17%	3%	0%	2%	227	31
Month 5 November	Week 45/2014	5	0	17	1	25	-	47	28%	2	0	17	-	-	2	51	30
	Week 46/2014	2	1	21	1	17	1	43	26%	10	3	33	2	-	3	51	30
	Week 47/2014	11	-	-	1	41	1	53	32%	15	1	22	2	-	6	46	27
	Week 48/2014	4	1	5	0	12	1	23	23%	9	-	19	1	-	6	35	36
Total Month 5		3%	0%	6%	0%	14%	0%	166	28%	5%	1%	13%	1%	0%	3%	183	30
Month 6 (December)	Week 49/2014	5	1	20	2	23	2	53	31%	3	1	9	1	-	4	46	27
	Week 50/2014	5	1	20	1	21	3	51	30%	10	1	31	2	-	5	48	29
	Week 51/2014	4	1	21	1	21	1	48	28%	13	1	29	6	-	4	53	31
	Week 52/2014	6	1	26	1	17	1	52	31%	13	1	25	4	-	5	47	28
Total Month 6		3%	1%	13%	1%	12%	1%	203	30%	6%	0%	14%	2%	0%	3%	194	29
Month 7 (January)	Week 1 / 2015	-	-	3	2	6	-	28	39%	-	-	3	-	-	-	14	19
	Week 2 / 2015	5	1	14	2	15	1	37	22%	15	-	28	7	-	11	61	36
	Week 3 / 2015	3	1	14	1	17	-	36	21%	17	3	28	3	-	14	64	38
	Week 4 / 2015	6	1	16	1	14	4	42	25%	15	1	26	1	-	13	56	33
	Week 5 / 2015	8	1	11	1	26	3	49	29%	11	1	26	1	-	11	50	29
Total Month 7		3%	0%	7%	1%	9%	1%	191	23%	7%	1%	13%	1%	0%	6%	245	29
Month 8 (February)	Week 6 / 2015	3	1	16	1	18	2	40	24%	5	1	13	2	-	9	60	35
	Week 7 / 2015	1	-	10	1	14	1	27	28%	6	1	17	2	-	5	31	32
	Week 8 / 2015	4	1	12	2	18	2	39	23%	12	4	29	5	-	13	62	37
	Week 9 / 2015	2	0	15	2	18	3	40	24%	14	1	34	3	-	9	60	36
Total Month 8		1%	0%	8%	1%	10%	1%	145	24%	6%	1%	14%	2%	0%	5%	212	35
Month 9 (March)	Week 10 /	3	1	3	1	6	-	14	28%	5	-	7	-	-	3	15	31
	Week 11 /	4	2	13	1	20	2	42	25%	15	1	28	3	-	12	59	35
	Week 12 /	2	1	14	1	20	1	39	23%	19	1	32	3	-	8	62	37
	Week 13 /	2	-	12	1	13	1	28	17%	18	1	43	3	-	8	72	43
Total Month 9		2%	1%	6%	0%	9%	1%	122	22%	8%	0%	16%	1%	0%	5%	208	38
Month 10 (April)	Week 14 /	4	0	23	4	14	0	44	26%	11	1	33	4	0	7	54	32
	Week 15 /	3	0	14	1	20	2	40	24%	13	1	29	3	-	14	60	36
	Week 16 /	3	0	11	1	28	1	43	26%	13	1	29	3	-	11	57	34
	Week 17 /	2	0	14	2	16	1	35	21%	9	0	41	2	-	12	63	38
	Week 18 /	2	0	17	0	27	1	46	27%	13	-	35	1	-	5	54	32
Total Month 10		1%	0%	9%	1%	12%	0%	207.3	25%	7%	0%	20%	1%	0%	6%	288	34
GRAND TOTAL		2%	0%	9%	1%	12%	1%	1779	26%	6%	0%	15%	1%	0%	3%	2209	33

Appendix E. Summary of Amount of exposure.

Amount of Exposure (Summary)			
Majority Language (Spanish)		Minority Language (English)	
TV (Cartoons/movies)	4%	TV (Cartoons/movies)	12%
Stories / Books reading	1%	Stories / Books reading	1%
Parental interaction	18%	Parental interaction	30%
Music / Songs	1%	Music / Songs	3%
Social interactions	24%	Social interactions	0%
Games Tablet& Mobile apps	1%	Games Tablet& Mobile apps	5%
Total of hours	1779	Total of hours	2209
Percentage	49%	Percentage	51%

Appendix F. Audio Recordings Transcripts

Toddler Signing: Audio 1
Date: 29/09/2014 9.41 a.m.
Duration: 2.02 minutes

Minute / Second	Recording
00.00 – 00.07	Yo canto ingles español también
00.08 – 00.12	Papa finger papa finger where are you
00.13 – 00.15	Fiby ya fiby ya
00.15 – 00.17	How,,,
00.18 – 00.21	Mama finger mama finger where are you
00.22 - 00.24	Fiby ya fiby ya
00.24 - 00.27	How…
00.28 - 00.31	Brother finger brother finger where are you
00.31 - 00.34	Fiby ya fiby ya
00.34 - 00.38	How do…
00.39 - 00.43	Bebe finger bebe finger where are you
00.44 - 00.46	Fiby ya fiby ya
00.47 - 00.48	How…wul do..
00.49 - 00.52	(pausa)
00.53 - 00.57	Yo hablo ingles español también
00.58 – 01.03	Si cantas migo lo podras hacer
01.04 – 01.05	Arriba up
01.06 – 01.10	Aba…(inaudible)
01.10 – 01.12	Arriba up
01.13 - 01.15	Aba.. que
01.16 – 01.19	Yo hablo ingles español también
01.20 – 01.21	Si can..
01.22 – 01.24	Español también
01.25 – 01.29	Si cantas conmigo lo podras hacer
01.30 – 01. 32	Arriba up
01.33 – 01.34	Abajo down
01.35 – 01.36	Abre open
01.37 – 01. 39	Cierra close
01.40 – 01.44	Hola hello hello
01.45 – 01. 48	Hora de empezar es mi canción
01.49 – 01. 50	Hola hola
01.51 – 01.52	Hello hello
01.53 – 01.54	Hora de empezar
01.55 – 01.56	Es mi canción
01.57 – 01.59	Es mi canción
02.00 – 02.02	(silence)

Toddler Signing: Audio 2
Date: 07/12/2014 1.38 pm
Duration: 20 seconds

Minute / Second	Recording
00.00 – 00.02	(silence)
00.02 – 00.04	¡Canta Giovis canta!
00.05 – 00.07	mmmm
00.08 – 00.10	Dora dora
00.11 – 00.12	Twinkle twinkle
00.13 – 00.14	Little star
00.15 – 00.16	How I wonder
00.17 – 00. 18	Wheeere you
00.19 – 00.20	(silence)

Toddler Signing: Audio 3
Date: 11/03/2015 7:43 pm.
Duration: 50 seconds

Minute / Second	Recording
00.00 – 00.04	Twinkle, twinkle Little star
00.05 – 00.09	How I wonder where you are
00.10 – 00.13	Up (unintelligible) o high
00.14 – 00.17	Liko lion in the sky
00.18 – 00.21	Twinkle twinkle little star
00.22 – 00.24	How I wonder
00.25 – 00.25	Where you are

Toddler Signing: Audio 4
Date: 30 /05 /2015 8:23pm
Duration: 01:02

Minute / Second	Recording
00.00 – 00.03	***Toddler***: Español también
00.04 – 00.06	***Toddler***: Si cantas conmigo lo podrás again
00.07 – 00.09	***Toddler***: Arriba up abajo down
00.10 – 00.11	***Toddler***: Abre es open
00.12 – 00.13	***Toddler***: Cierra close
00.14 – 00.15	***Toddler***: Yes?, ¡ya!
00.16 – 00. 20	(silence)
00.21 - 00.23	(inaudible)
00.24 – 00.26	***Toddler:*** Twinkle twinke Little star
00.27 – 00. 28	***Toddler:***How I wonder what you are
00.29 – 00.31	***Toddler:***How I wonder what you are
00.32 – 00.34	***Toddler:***How I wonder what you are
00.35 – 00.37	***Toddler:*** (unintelligible) Twinkle little star
00.38 – 00.40	***Toddler:***How I wonder what you are
00.41 – 00. 42	***Mother***: Beautiful Sophie, beautiful!
00.43 – 00.44	***Toddler:***Pa pa, black sheep?
00.45 – 00.46	***Mother***: Do you want to sing another one?
00.46 – 00.47	***Toddler***: Yes
00.47- 00.48	***Mother***: Which one do you want to sing?
00.49 – 00.49	***Toddler***: mmm, humpty dumpty
00.50 -00.52	***Toddler***: Humpty dumpty sat on the wall
00.52 – 00.54	***Toddler:***Humpty dumpty had a great fall
00.55 – 00.56	***Toddler:***All the (unintelligible)
00.56 – 00.57	***Toddler:***And all the king's men
00.57 – 00.59	***Toddler:***Couldn't put Humpty together again
01.00 – 01.02	***Mother***: beautiful! another one?

Appendix G. Total Commands Learned During the Observations Period in Spanish

Spanish Commands			
Month	Number	Command	Variation
July	1	Ven	
July	2	Escúchame	
July	3	Dí ….	hola / adiós / gracias
July	4	Dime, ¿dónde estan ….	tus ojos?
July	5	¡Sientate!	
July	5	Dime, ¿dónde esta ….	tu cabeza?
July	5	Dime, ¿dónde esta ….	tu nariz?
July	5	Dime, ¿dónde esta ….	tu boca?
July	5	Dime, ¿dónde esta ….	tus manos?
July	5	Dime, ¿dónde esta ….	tu ombligo?
July	6	Aplaudir	
July	7	Mírame	
July	8	Saluda	a tu abuelita/ a tu tía
July	9	Despídete	de papa
July	10	Ríete	
July	11	Pegada a la pared	
July	12	(vamos) a bañarnos	
July	13	(Dime) Cómo hace …..	la vaca? / el perro? / el gato?
July	14	Di gracias!	
July	15	Di por favor!	
July	16	Patea la pelota	
July	17	Corre	
August	18	¡Tráeme el control de la tele!	
August	19	Ve por tus zapatos	
August	20	¡ Haz ojitos!	
August	21	Manda besito	
August	22	Es hora de dormir…	
August	23	No te lo metas a la boca	
August	24	No agarres / tomes	el celular/ la computadora
August	25	No toques la pantalla	
August	26	Es hora de (tomarte) tu medicina…	
August	27	Acércate	
August	28	Dame/pásame tu vaso	
August	29	Ponlo debajo de la cama	
August	30	Ponlo encima de la mesa	
August	31	Dame leche	
August	32	Dáselo a…	

August	33	Respira	
August	34	Tócalo	
August	35	Salta	
September	36	¡Pon atención!	
September	37	Abre la Boca	los ojos
September	38	Ven aquí	
September	39	No llores	
September	40	Guarda silencio	
September	41	Ve para allá	
September	42	Mira para allá	
September	43	Agárrate de la pared	del barandal
September	44	No lo chupes	
September	45	Límpiate	
September	46	Párate derecha	
September	47	Siéntate bien	
September	48	No levantes los pies	
September	49	No te muevas	
September	50	No te vayas	
September	51	No toques eso!	
September	52	Invítalo a tu fiesta	
October	53	¡Brincar!	
October	54	Da los buenos días	
October	55	Di buenas noches!	
October	56	Lávate las manos	
October	57	Párate	
October	58	Aviéntame la pelota	
October	59	Aléjate	
October	60	Ponlo/tíralo en la basura	
October	61	Levanta las manos	
October	62	No muerdas	
October	63	Asusta a …	papá/mamá
October	64	Diles.. Buuu	
October	65	Abrázame	
October	66	Cárgalo	
October	67	No te tomes esa agua	
October	68	No desperdicies la comida	el agua
October	69	Cierra la llave	
November	70	Dime ¿Qué color es este?	
November	71	Ya! Tranquila!	
November	72	Cierra los ojos	
November	73	¡Búscalo!	
November	74	Levanta la cabeza	
November	75	Dale un beso a …	a tu mamá/papá/abuelita

November	76	Espérame	
November	77	Tomate tu ….	leche/refresco/agua
November	78	Pásame el balón	
November	79	Prende la tele	la luz
November	80	Apaga la tele	la luz
November	81	Da vueltas	
November	82	No te recargues en la pared	
November	83	No pegues	
November	84	Súbete tus pantalones	
November	85	No tires el agua	
November	86	Mira a la pared	
December	87	Ya diste las gracias?!	
December	88	¡Pero rápido!	
December	89	No corras	
December	90	Canta	
December	91	No grites	
December	92	No despiertes a …	papá/bebé/mamá
December	93	Dile hola a…	la niña/el niño
December	94	Muéstrame (donde esta) la luna	
December	95	(trata) Amárrate tus agujetas	
December	96	No te levantes de ahí	
December	97	No te despeines	
December	98	No lo tires	
December	99	No lo rompas	
December	100	Haz ese ruido	
December	101	Huele (esto)	
December	102	Déjate peinar	
December	103	Mira a la cámara	
December	104	Cuida a tu hermano	
January	105	¡Córrele!	
January	106	Cepíllate los dientes	
January	107	Ve a la cama	
January	108	Ponte tus zapatos	
January	109	Ponte tu suéter	
January	110	Apaga /sóplale las velas	
January	111	Contesta	
January	112	Dibuja un…	corazón/estrella
January	113	No pises ahí	
January	114	No pongas tus pies ahí	
January	115	Trae tu mochila	
January	116	Límpiate con la toallita	
January	117	Sécate las manos	
January	118	Quédate quieta	

January	119	Ve hacia la pared	
January	120	Ponte gel (antibacterial)	
January	121	Toma(me) una foto	
February	122	Pide(le) una…	servilleta
February	123	Dile a la Srita. que quieres más refresco…	
February	124	Metete a la casa	
February	125	Pasame (on the phone)	a papá/mamá
February	126	Guardalo en tu cajón	
February	127	Ponlo en el cajón	
February	128	No te mojes	
February	129	Lavate la cara	
February	130	Silba /Chifla	
February	131	No pintes (dibujes) ahí	
February	132	Escondete	
February	133	Dime que me quieres	
February	134	Sientate junto a…	
February	135	Miralo	
February	136	No hagas berrinche	
February	137	Ve al baño	
March	138	Obedeceme	
March	139	Saca la lengua	
March	140	Sosten esto	
March	141	Ve a cambiarte	
March	142	(Camina) con cuidado	
March	143	Terminate toda la comida	
March	144	Alza tu brazo, te voy a tomar la temperatura	
March	145	(ten) Cuidado con el perro	
March	146	Sal al jardín	
March	147	Trae tu silla	
March	148	Cierra/Abre el refri	
March	149	No te enojes	
March	150	Cuéntamelo	
March	151	Échale agua a las plantitas	
March	152	Súbete tus mangas	
March	153	Ve a jugar	
March	154	Levanta tus juguetes	
March	155	Ordena tu cuarto	
April	156	Dime, ¿qué es eso?	
April	157	No (vayas) tan rápido	
April	158	Quédate junto a mí	
April	159	Habla bajito	
April	160	Pregúntale como se llama	
April	161	(no juegues)en la escalera	

April	162	Quítale la cáscara
April	163	Enjuágate
April	164	No saques tu cabeza por la ventana
April	165	Ponte el cinturón
April	166	Guarda la tablet
April	167	Escupe
April	168	Saca las flemas
April	169	Ponte gel (cabello)
April	170	No dejes que tu hermano se suba la escalera
April	171	No dejes solo a tu hermano
April	172	No agarres la tierra
April	173	Ve a traer al bebé
April	174	Vigila al bebé
April	175	No dejes que el bebé se meta algo a la boca
April	176	No tengas miedo
April	177	¡Baja la escalera pegadita a la pared!

Appendix H. Total Commands Learned during the Observations Period in English

English Commands

Month	Number	Command	Variation
July	1	Come _____	to the kitchen!
July	2	Say (manners) _____	please
	2	Say (manners) _____	thank you
July	3	Watch out!	
July	4	Go to bed	
July	5	Let's go	
July	6	Sit down	properly
July	7	Kick the ball	kick it
July	8	Point to your_____	
July	9	Say hello to grandma	
July	10	Touch your (different body parts vocabulary)	knees
July	11	Run	
July	12	Jump	
July	13	say godbye to daddy	to papa
July	14	go get your	doll
July	15	Come here	
July	16	Stop!	
July	17	Go!	
July	18	Hands up!	
August	19	Pass me the	ball
	19	Pass me the	salt
August	20	Be ready	
August	21	Say it slowly	
August	22	Clean it	
August	23	Slow down	
August	24	Tell him /her	
August	25	Give me your cup	
August	26	come on!	
August	27	Use your spoon	fork
August	28	Sit on the couch	
August	29	stand up	
August	30	put your jacket on	
August	31	Open the door!	open the fridge
August	32	Close the door	
August	33	Give me (colours)	
August	34	Listen!!!	
August	35	Be quiet!	

August	36	Do not hit!	
September	37	Enjoy!	
September	38	stay	
September	39	Fix it!	
September	40	Use the potty!	
September	41	Speak louder	
September	42	Calm down	
September	43	Repeat it	
September	44	Dance	
September	45	Help me	
September	46	Go to the toilet	
September	47	Clap your hands	
September	48	Stamp your feet	
September	49	Say hooray!	
September	50	Make him laugh	
September	51	Obey	what grandma says
September	52	Pull up your pants	
September	53	wash your hands	
October	54	get your	shoes
October	55	You have to _____	
October	56	Get closer to _____	papa
October	57	Go to the house	
October	58	Be nice / good!	
October	59	Behave	
October	60	Don't break it	
October	61	Don't sleep	
October	62	Wait untill we get home	
October	63	Pay attention	
October	64	Throw the ball	to him / her
October	65	Breath	
October	66	Don't cry	
October	67	Don't shout	
October	68	No screaming	
November	69	Stay in the garden	
November	70	Let's play!	
November	71	Get in _____	the car!
November	72	Get in _____	the house!
November	73	Roll over!	
November	74	Move over!	
November	75	Where is the _____	moon?
November	76	Repeat that	
November	77	Quickly	
November	78	Hurry up	

November	79	Sit upright	
November	80	Nod your head	
November	81	Shake it off	
November	82	Shake your head	body
November	83	Hide	
November	84	Don't do that	
November	85	Wait!	
November	86	wait here	
December	87	Tie your (shoe) laces	
December	88	Eat your …	breakfast
	88	Eat your …	meal
	88	Eat your …	your veggies
December	89	Wave goodbye!	
December	90	Go upstairs	
December	91	Go downstairs	
December	92	Scare him !	
December	93	Say that again	
December	94	Use this	
December	95	Ask papa	
December	96	Give me a kiss	a huge
December	97	Kiss me	
December	98	touch it	
December	99	come in	
December	100	look	
December	101	Should we kiss papa?...	
January	102	Tell me the story!	
January	103	Put in in the box!	
January	104	Cheer up!	
January	105	Keep on trying!	
January	106	follow me	
January	107	Make the bed	
January	108	Turn off the tv	the lights
January	109	Turn on the tv	the lights
January	110	Pick up all your toys!	
January	111	Use the paper!	
January	112	Put in on!	
January	113	See the _____	wheels of the car!
January	114	Again!	
January	115	Sing	
January	116	Wipe yourself	
January	117	Walk!	
January	118	Clean it up	
January	119	Again but slowler	

February	120	Walk along the line!	
February	121	Put _____ on the table	the remote
	121	Put _____ on the table	the iPad
February	122	Close your eyes	
February	123	Open your eyes	
February	124	Show me !	where is he
February	125	Do your best!	
February	126	Show it to me!	
February	127	Repeat after me	
February	128	Say_____	your name
February	129	sit on your car seat	
February	130	Go take a shower!	
February	131	Show me your ----	
February	132	Don't talk	
February	133	After me	
February	134	Sit next to_____	papa
February	135	Say you love me…	
February	136	(Let´s) take a shower	
March	137	Where is _____? (say)	your brother
	137	Where is _____? (say)	baby
March	138	Show him how to do it	
March	139	Look through the window	
March	140	Brush your teeth	
March	141	Put your _____ on	backpack
	141	Put your _____ on	jacket
	141	Put your _____ on	coat
March	142	Hug me!	
March	143	Come closer!	
March	144	Go play in the garden	
March	145	Go outside	
March	146	Get inside	
March	147	Be careful	
March	148	Open the fridge	
March	149	Don't open the chocolate /candy untill we get home	
March	150	Have fun!	
March	151	Can you show me	
March	152	Clean your face	
March	153	Deck	
March	154	Look for…	papa / mama /
March	155	Flush it!	
March	156	Put the cartons of milk in line	
April	157	Put it/them in your pocket!	

April	158	How do you say….? (say)	
April	159	Stay here untill I say so	
April	160	Tell me how many….	fingers do you have
April	161	At least, try to ___ eat your soup!	
April	162	Lead him to…..	
April	163	mop / sweep the floor (pretend game)	
April	164	Ask …… papa to read it for you	
April	165	Do not let baby alone	
April	166	Sit properly	
April	167	Don't bit your tongue	
April	168	Do the magic! (playing)	
April	169	Do Anna! / Do Elsa!	Pretend you are Elsa..Anna (Pretend game)
April	170	Check my temperature!	
April	171	Listen to my heartbeat!	
April	172	Give me my medicine	
April	173	Get off me!	
April	174	Let me breath!	
April	175	Give me some space!	
April	176	Let's all be quite for now!	
April	177	Hide under the table!	Hide under the bed!
April	178	Do not make any sound untill I say so!	
April	179	Let it go!	
April	180	Let him be!	

Appendix IEvaluation and Feedback from Pre-school readiness examination

EDUCALIA

Instituto David Weikart

23/04/15

COMITÉ DE ADMISIONES

Por este medio le comunico que su hijo(a) Sofi, realizo de forma exitosa el proceso de admisión durante el cual se realizaron diferentes observaciones y ejercicios, en los cuales nos percatamos de lo siguiente:

Su pequeño es capaz de:

- Decir el nombre de su papá
- Decir el nombre de su mamá
- Seguir indicaciones
- Ir al baño
- Saltar en dos pies
- Correr y caminar
- Manifestar emociones
- Construir oraciones de dos a tres palabras.
- Decir su edad
- Compartir juguetes con otros
- Nombrar 10 objetos de la vida diaria
- Identificar las partes de su cara.

Del mismo modo también le comunicamos las áreas en las que hay que trabajar:

- Requiere mayor dicción

Papitos: "Los felicitamos por el gran trabajo que están realizando en el desarrollo de su pequeña, pues le han dado las habilidades necesarias para ingresar de forma exitosa al colegio"

Por la tanto nos da gusto comunicarle que su pequeño(a) esta aceptado(a) en el colegio y que de ayudarlo(a) a trabajar en las áreas en las que necesita ayuda se desempeñara con éxito.

Psic. Maricela Moguel Silva